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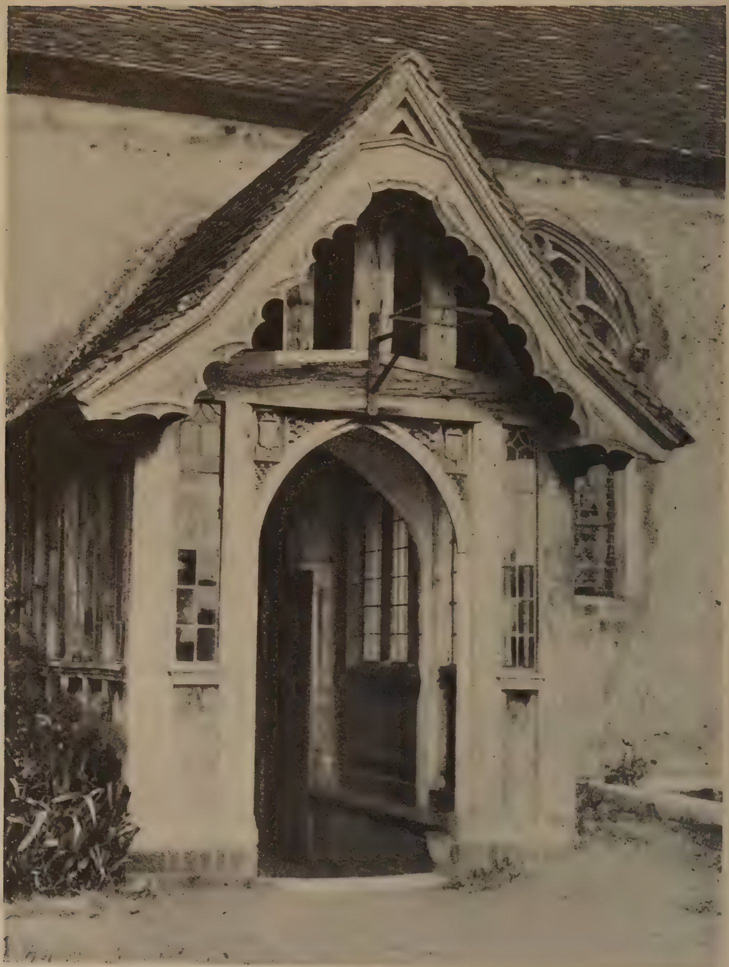

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JVLY 1924

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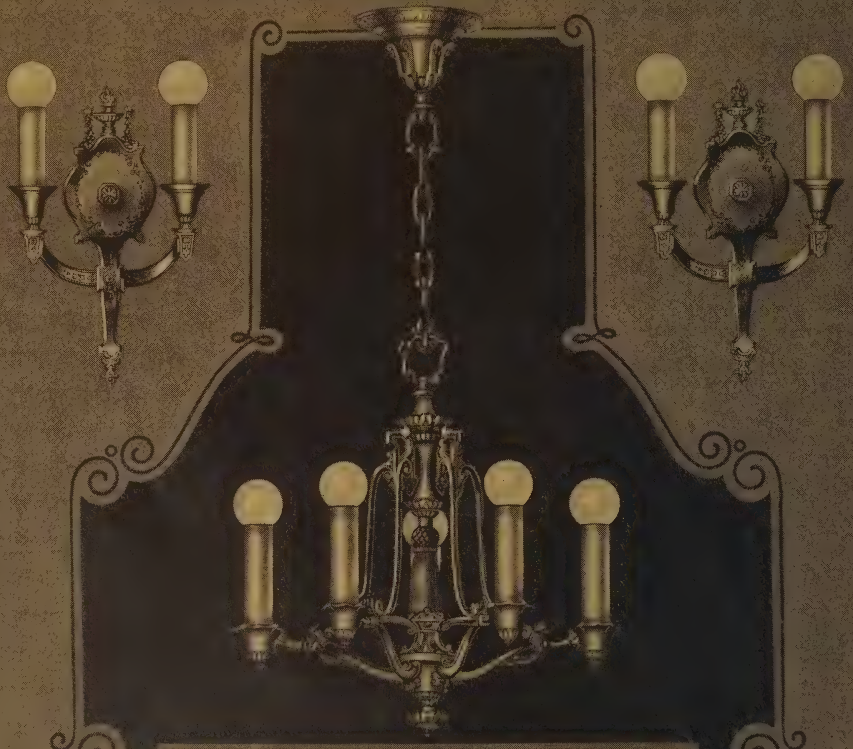

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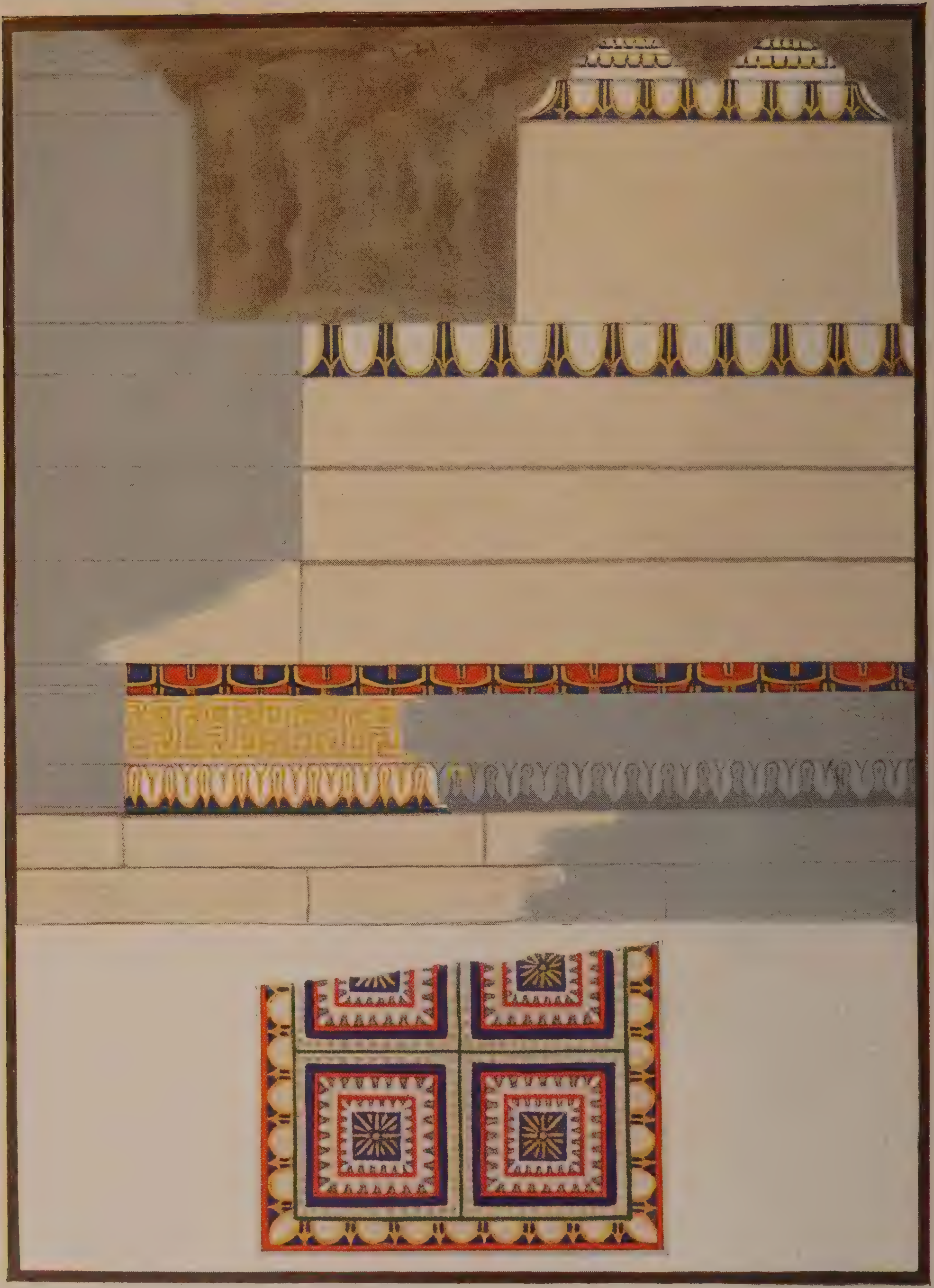


The Architectural Record.

THE PORTICO OF THE PROPYLAEA, ATHENS
Restoration by Penrose

The
ARCHITECTVRAL
RECORD

VOLUME 56 JULY, 1924 NUMBER 1

The FIELD MUSEUM of NATURAL HISTORY
CHICAGO ILLINOIS

Graham, Anderson, Probst & White, Architects

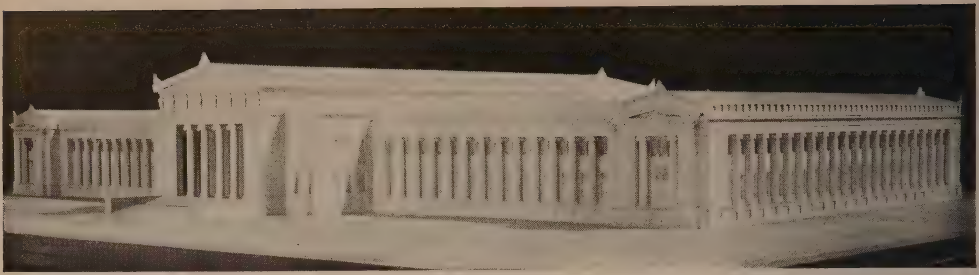
BY
RICHARD F BACH

IN VIEW OF THE greatly increased interest in museums in America, as evidenced by projects for the erection of such institutions devoted to science, art, history, industry, an important addition to the list such as the Field Museum of Natural History at Chicago should be given close study.

This study can be profitable only if it begins with certain matters of museum theory, too large a territory to be explored here yet one that must at least be known to the architect, for it implies a radical change from the general conception of the newer uses of museums. Suffice it to say the modern museum plan accounts for a working institution, functionally active, employing to the fullest extent every means to make its collections available, demonstrating them, publishing them, even circulating part of them.

Such an institution is today a complex educational machine, one in which the finding, preparing or acquiring, exhibiting, protecting and demonstrating of material must have their special places, which means for the architect special representation in plan. The larger museum of the immediate future may be visualized as one in which the function of education will dominate the entire design, and in which there will be a wing devoted to such educational work as may be represented in class rooms, study rooms, headquarters for lending collections and other services.

The exhibition gallery is now but an



Model

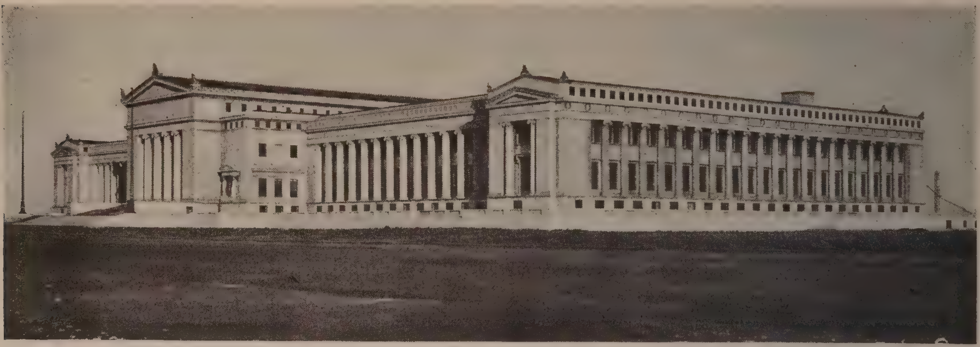
educational instrument. It can be made more than a source collection of collateral material; it can be and in some museums has been made something akin to a textbook with tri-dimensional illustrations.

This, it may be said, is a matter of internal administration. Not only that; the modern museum, especially of science, recognizes that to show all it owns is to show too much. Nothing so well encourages "museum fag" as a superfluity of similar objects in serried, defiant ranks, when one such object with a carefully worded, easily read instructive label will do the work. What work? The educational work, not the mere exhibition work. So this does touch the architect, for he must account for reserve collections, called study or research collections, which are often, and reasonably should be, larger than those that the public sees.

This is but one aspect of the newer concept of museum work; many more could be cited and in another place will be, so that these active functions of museums may be properly related. Will such revision of theory bring with it a new interpretation of design? Must a museum be a temple or a basilica or a palace in appearance? Will the future museum be a humbler appearing, harder working institution, looking its part, and perhaps situated in a crowded district?

The Field Museum of Natural History at Chicago is an example of the temple type. It is situated on Lake Michigan and is a definite factor in the great plan of the city, in which it is to form a group with an amphitheatre, a new railroad terminal and other structures in the lakefront park area. As it now stands, judgment of the building cannot be fair, for it is isolated on a dirt flat, from which its Georgian marble mass gleams like a white growth in black loam.

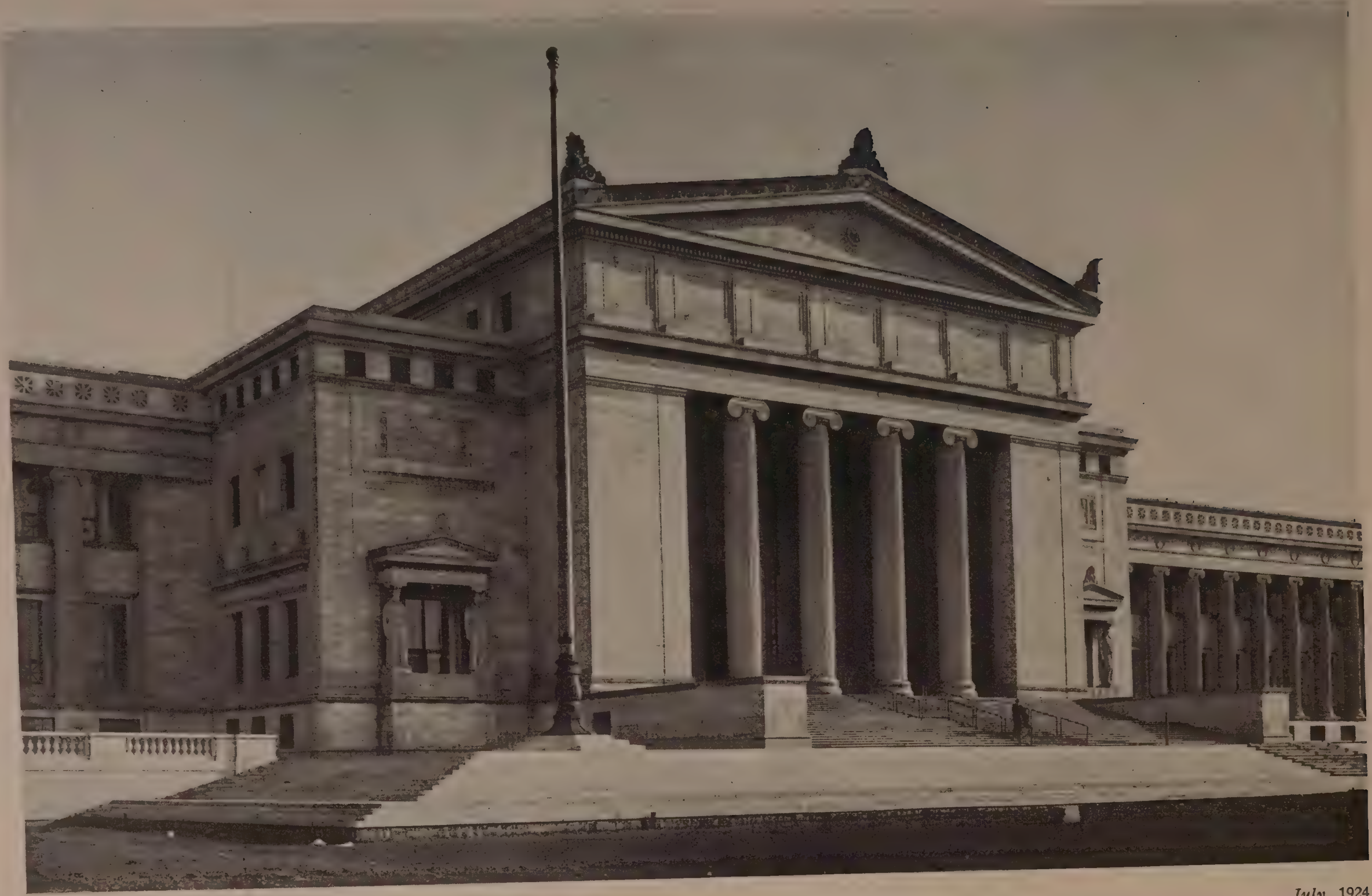
The building measures 706 by 337 feet, but has a general height of only 80 feet. Its great area and especially the long ridge and attic lines emphasize its squat appearance, an effect contrary to that of



Façade

FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS

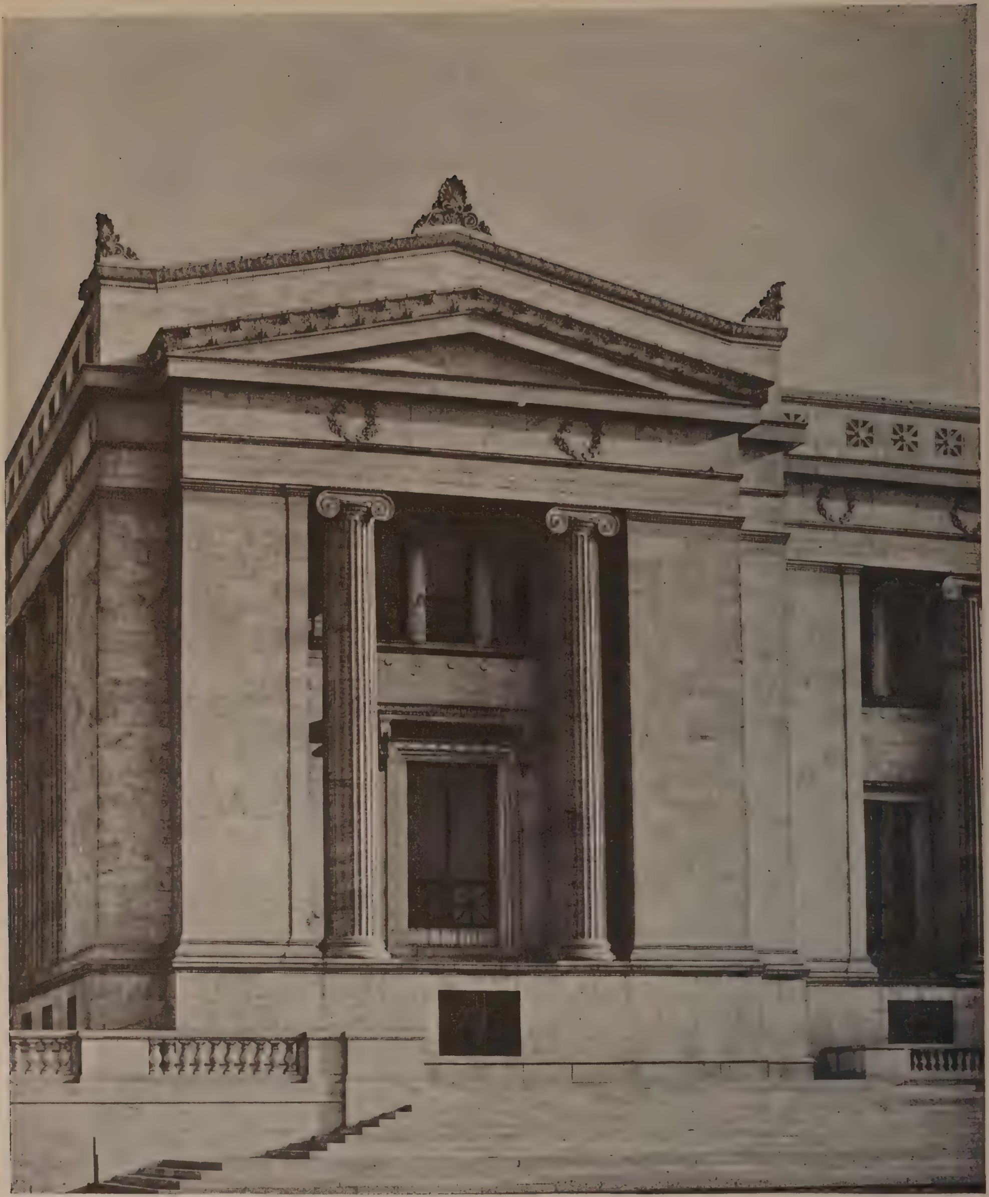
Graham, Anderson, Probst & White, Architects



Entrance Façade

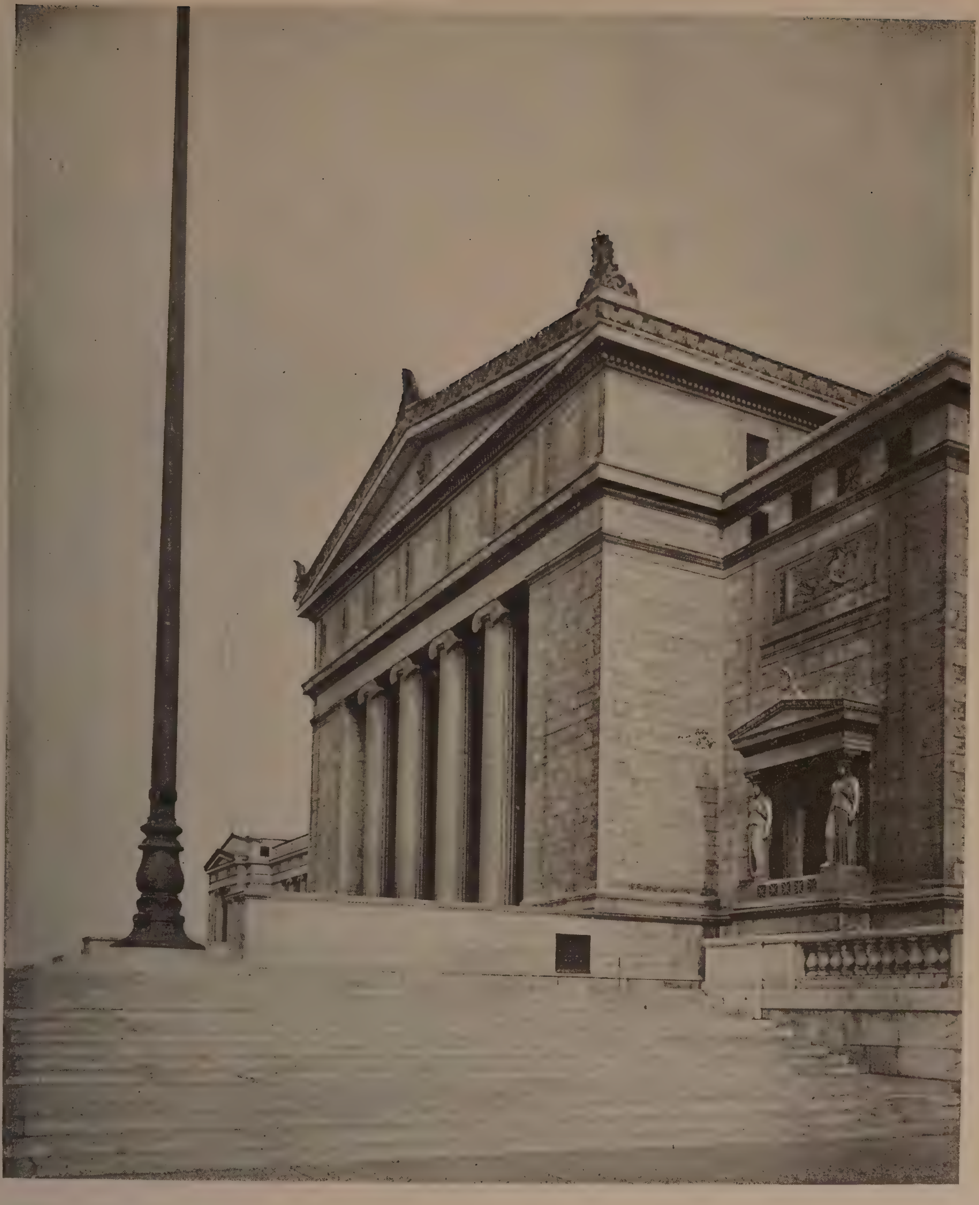
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS

Graham, Anderson, Probst & White, Architects



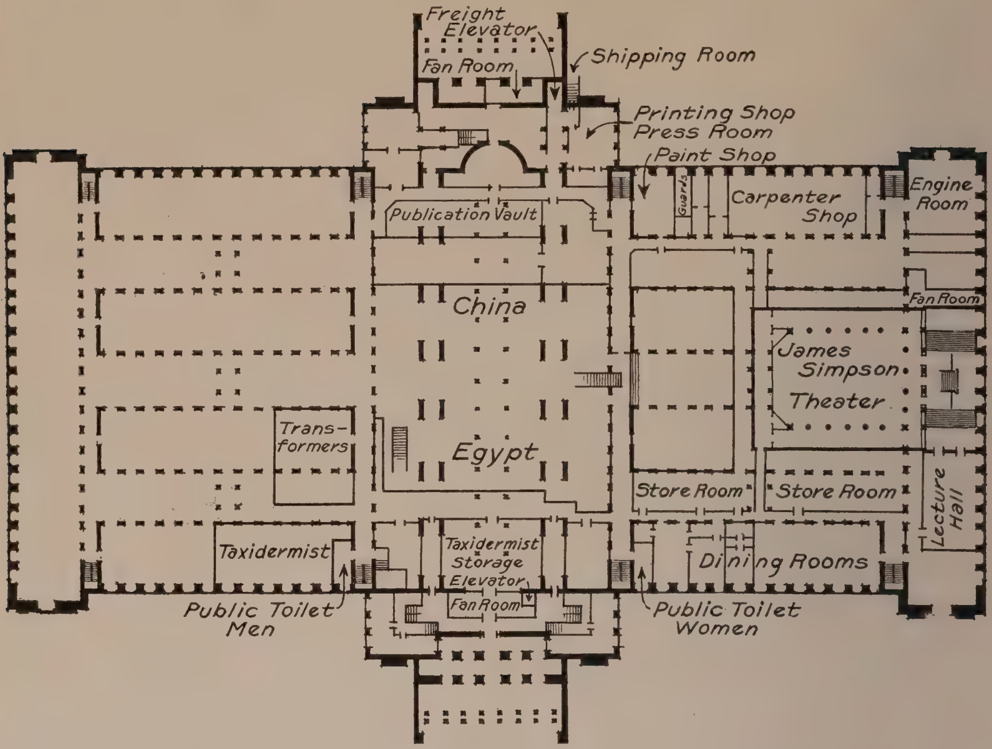
The Architectural Record *July, 1924*

FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects



The Architectural Record *July, 1924*

Entrance Detail
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects



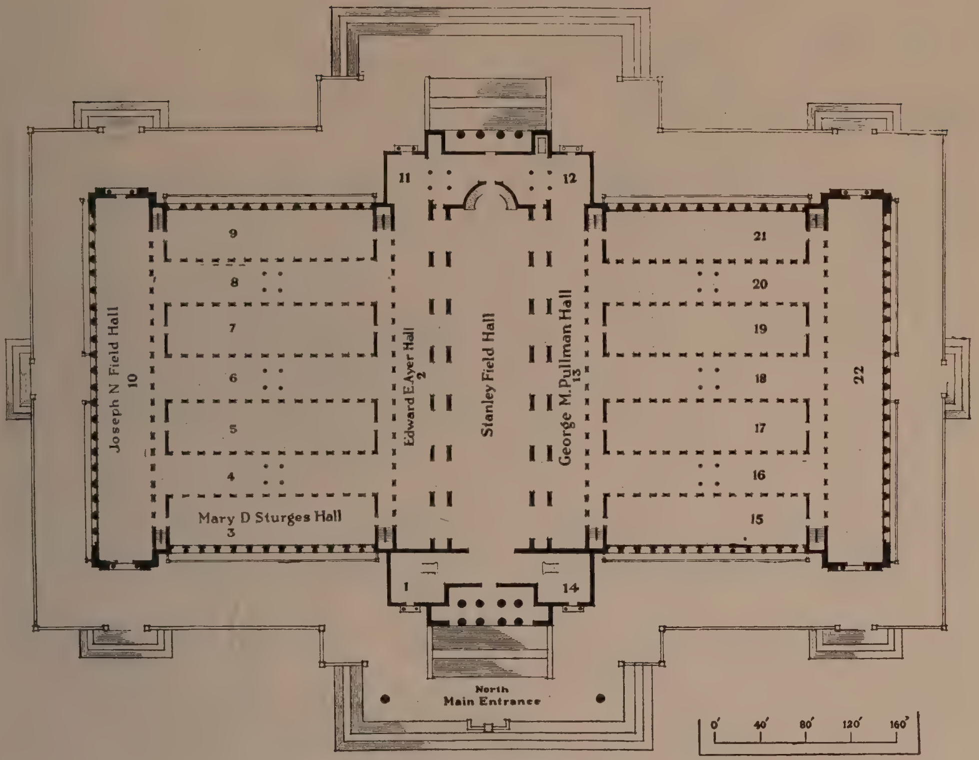
Ground Floor Plan
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects

the old temple form which was its inspiration, but undoubtedly one both desired and necessary in accordance with height restrictions laid down for property between Michigan Avenue and the lake.

To most architects the building will be a satisfaction and a solace. It is a splendidly studied piece of work, its proportions please, its detail has a finesse that is inspiring. But is not the detail lost in sharp shadows against shrill marble reflections? Time will help to alleviate the contrast. Meanwhile, though the man in practice can sense its fineness, the man in the street loses it, one might almost say, for the same reason.

It is a monumental structure, awe-inspiring as to size and splendor. Is that an advantage in museum buildings? Does it encourage the idea of usefulness? Or does it add another monumental pile to the city's list of fine buildings which too few citizens enter? Not in criticism do we write this, but as a question based upon museum theory, for it is obvious that museums, especially of natural history, should be admired more within, as to their contents, than without, as to their appearance.

Next is the matter of circulation and exhibition space. A building of this kind must necessarily be larger than its present collections require. So for some time there will be long distances to traverse. But assume that it is filled with exhibits, cases, groups and other material, will circulation then be a simple thing? The plan of the main floor is broken by structural units only. The great nave and parallel end wings are connected by close lines of seven galleries on each side, solid exhibition space. The height of the hall will help the architect again in determining that he is in a main or a minor hall; structural features will also show a way to the main hall or to a stairway.



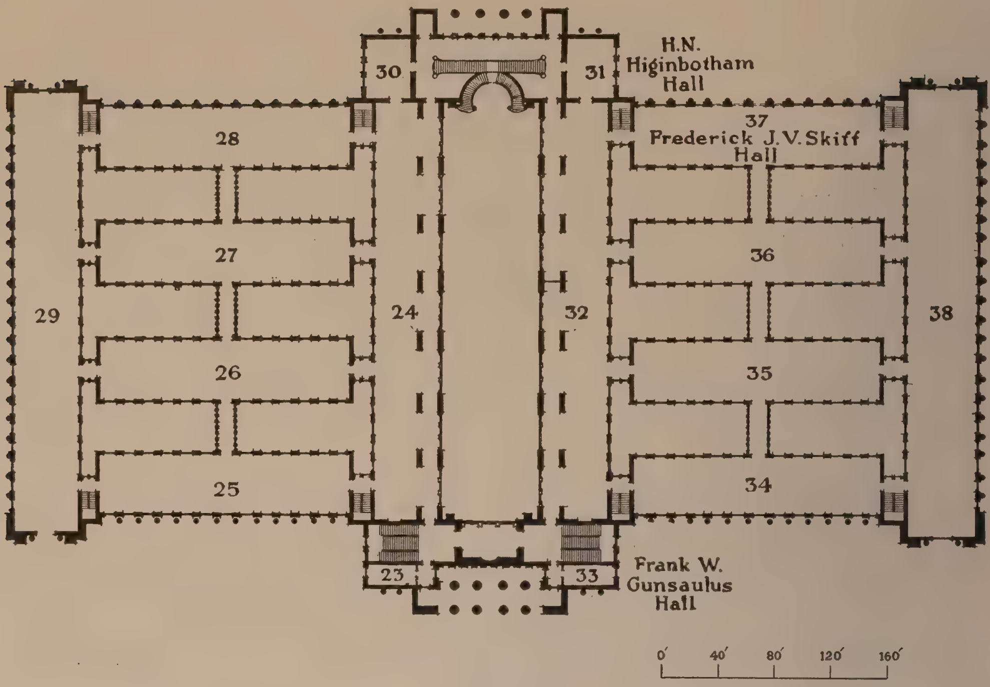
First Floor Plan

FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS

Graham, Anderson, Probst & White, Architects

Key

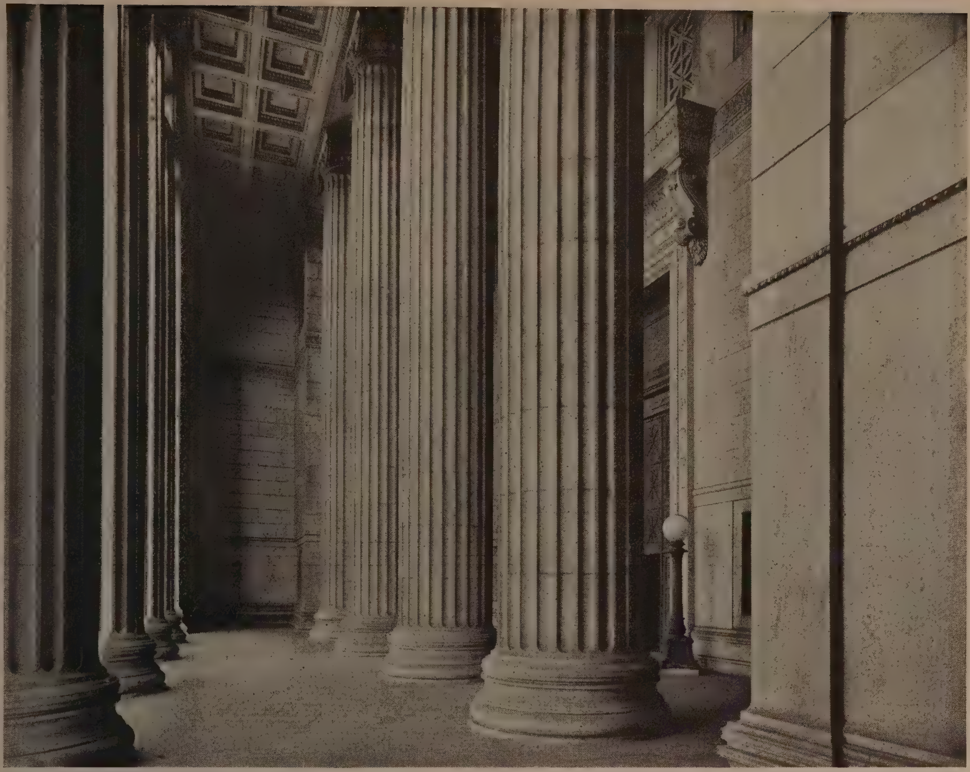
2—Egyptian and Classical Archaeology.
3—Eskimo and Northwest Coast of America.
4—Salish, Plateau and Woodland Tribes, North American Archaeology.
5—Indian Tribes of the Great Plains.
6—California and Nomadic Tribes of Arizona and New Mexico.
7—Sedentary Tribes of Arizona and New Mexico.
8—Mexico, Central and South America.
9—Philippine Islands.
10—Melanesia, South Pacific.
13—Horned and Hoofed Mammals.
15—Mammals—Synoptic.
16—American Mammals—Habitat Groups.
17—Osteology—Skeletons.
18—Fishes, Reptiles, Marine Fauna.
19—Shells—Insects.
20—Birds—Habitat Groups.
21—Birds—Synoptic.
22—African Game Animals.



Second Floor Plan
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects

Key

23—Chinese Paintings and Screens.
24—China.
25—Plant Economics.
26—North American Trees.
27—Foreign Woods.
28—Plant Life.
29—Plant Economics.
31—Gems and Jewels.
32—Africa, India, Korea, Japan, Thibet, Java and Siberia.
33—Japanese Prints and Paintings.
34—Systematic Minerals, Meteorites, Physical Geology.
35—Relief Maps, Systematic Rocks, Physical Geology.
36—Petroleum, Coal, Clays.
37—Ores of Precious and Base Metals, Marbles, Alkalies.
38—Historical Geology.



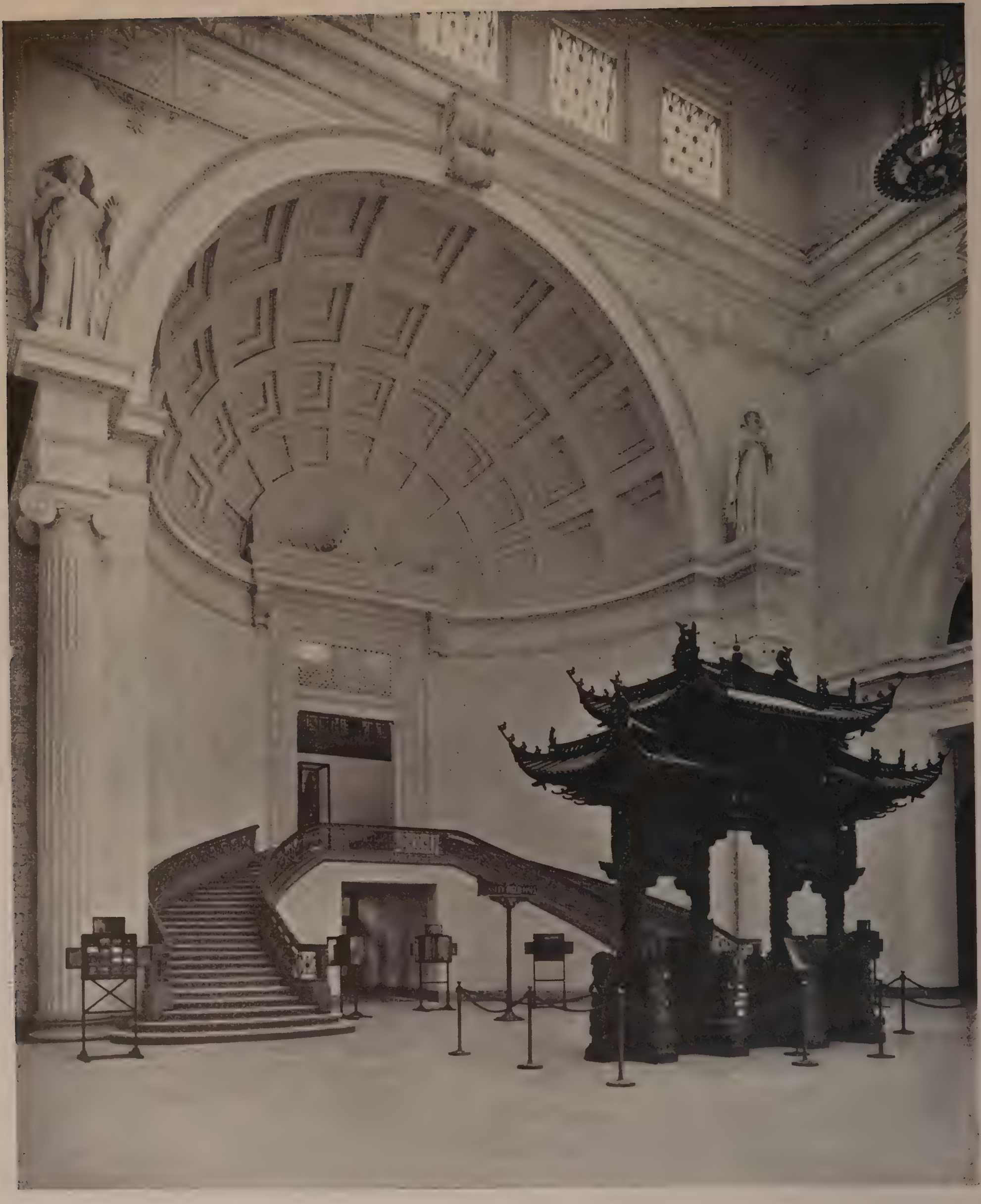
Detail of Colonnade
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects

But for the public there must be something more logical, a passage, a corridor. This plan has such passages, four of them running north and south, but not sufficiently obvious although fortunately leading directly to stairways.

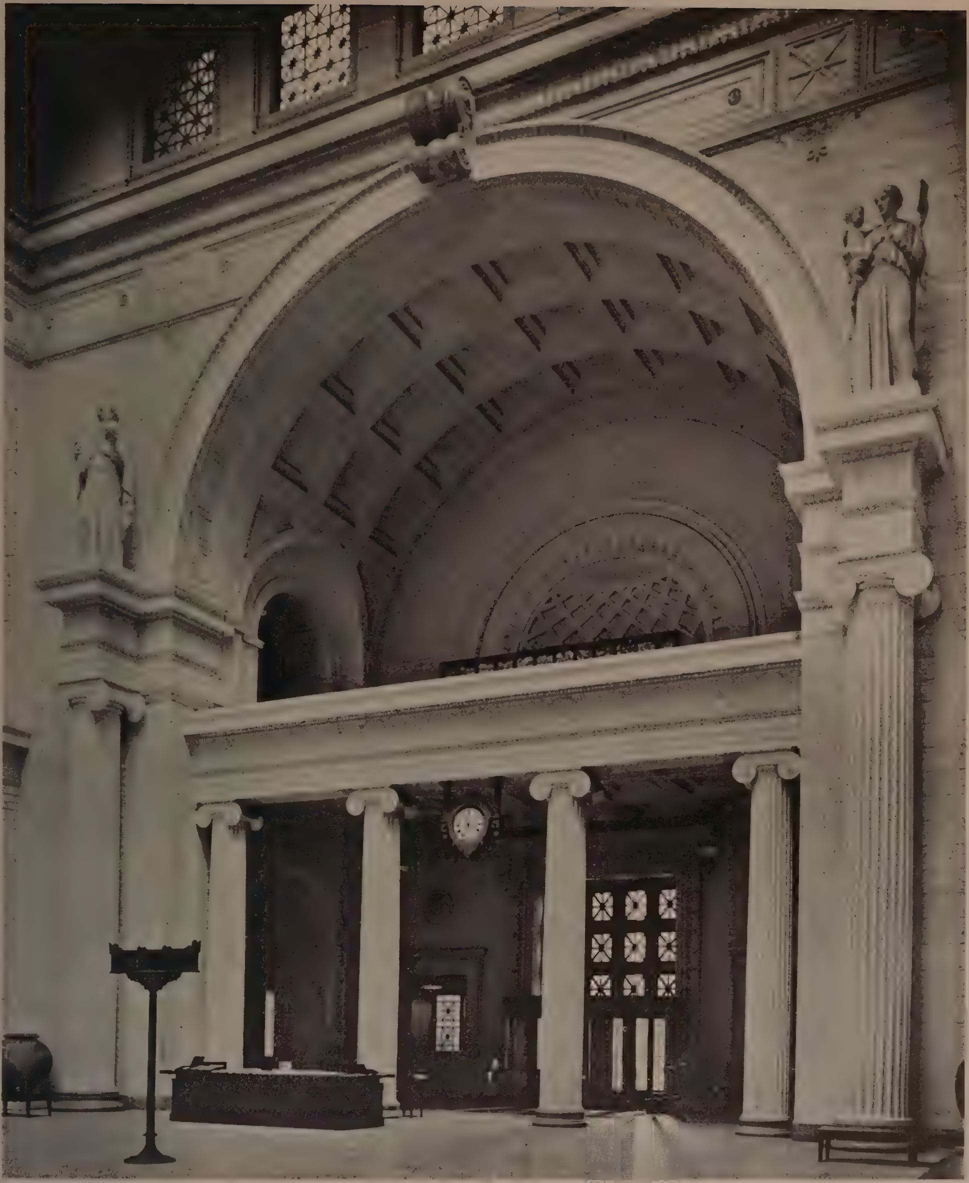
The fact remains that an exhibition structure, to be favored by the public, requires a plan suggesting a route arrangement of exhibits, or, failing that, at least a suggested route of travel for the visitor. The architect maintains that if he provides an attractive gallery, the museum curator can take care of the internal route arrangement. No, it must begin in the plan, and it must be further emphasized by disposition of structural members and by the arrangement of collections last. In museums of natural history this is especially necessary because their educational purpose, above all in the public or exhibition collections, is served best by a route arrangement of exhibits which shows development in nature, or, by other sequential dispositions of material, which indicates uses of the products of nature

If the material is of a kind, brought together in terms of geographic grouping, in terms of nature's own groupings, as of animals and plants customarily found together, or in terms of species or other biological standard, the architecture of the interior should, if it is possible to allocate space in anticipation of museum growth, indicate such classifications—not as to what they are but as to where they begin and end. The interior may reasonably circumscribe classifications, especially in so large a building.

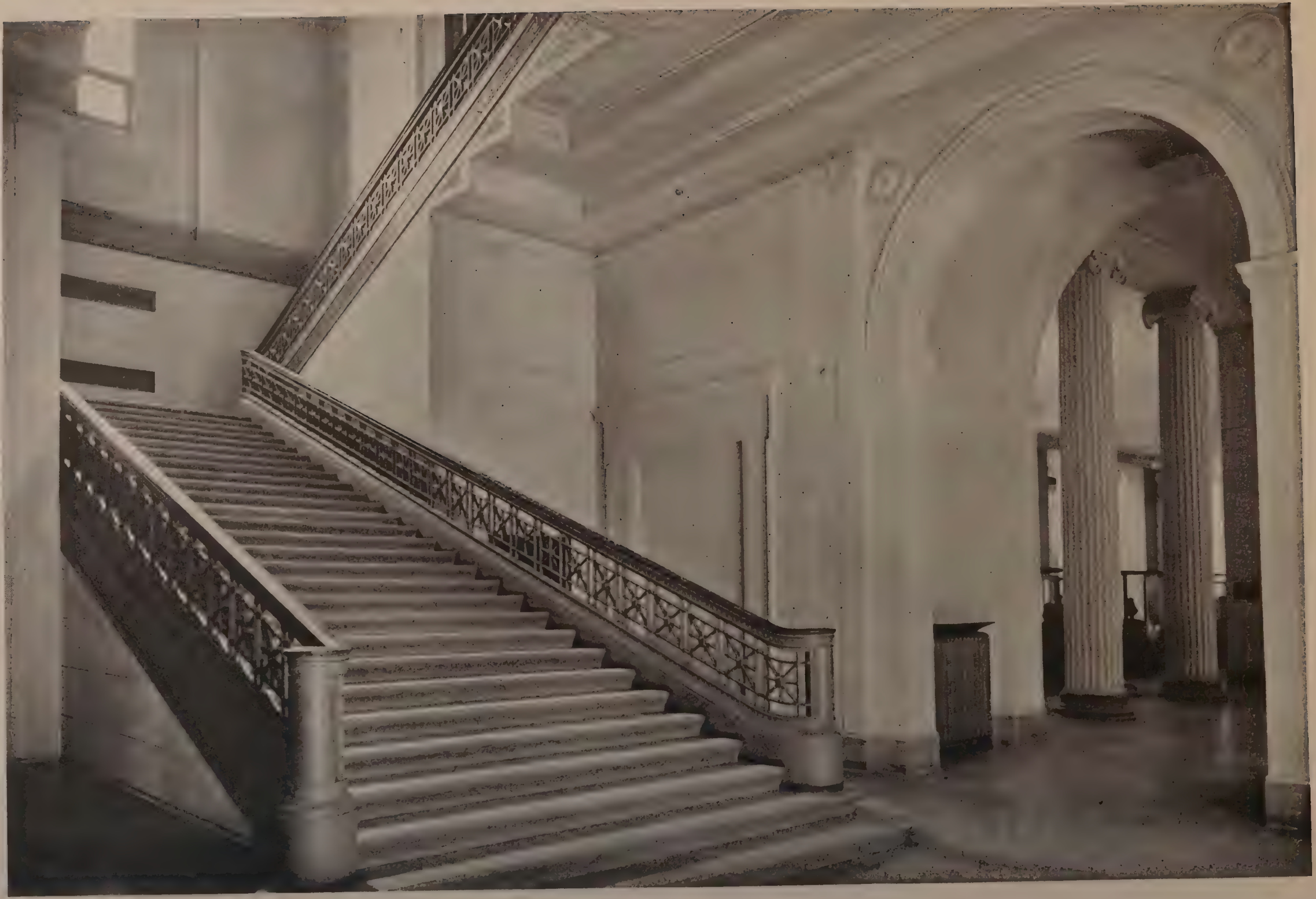
It is yet too far in advance to speak of such close association between skilful



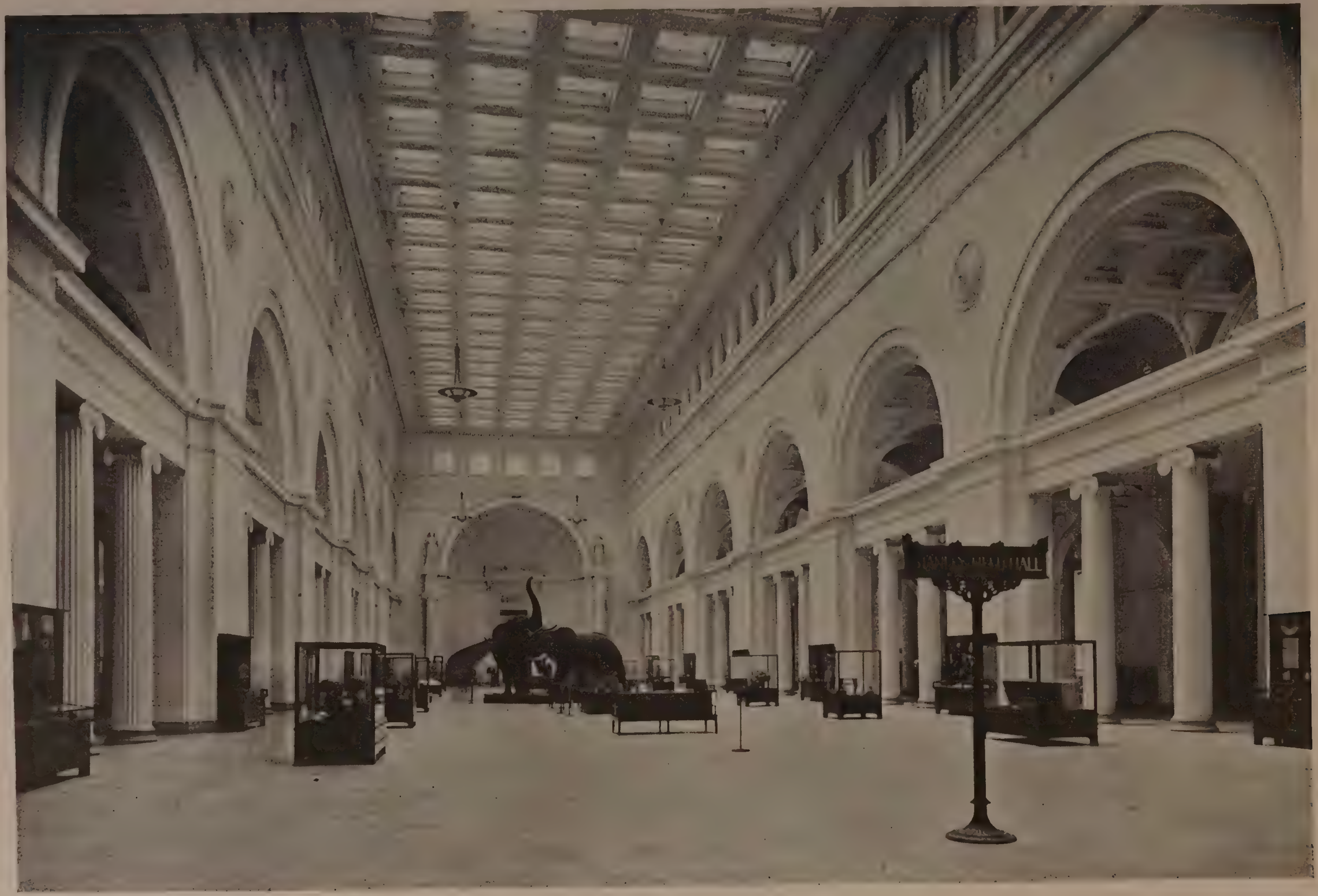
South End of Stanley Field Hall
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects



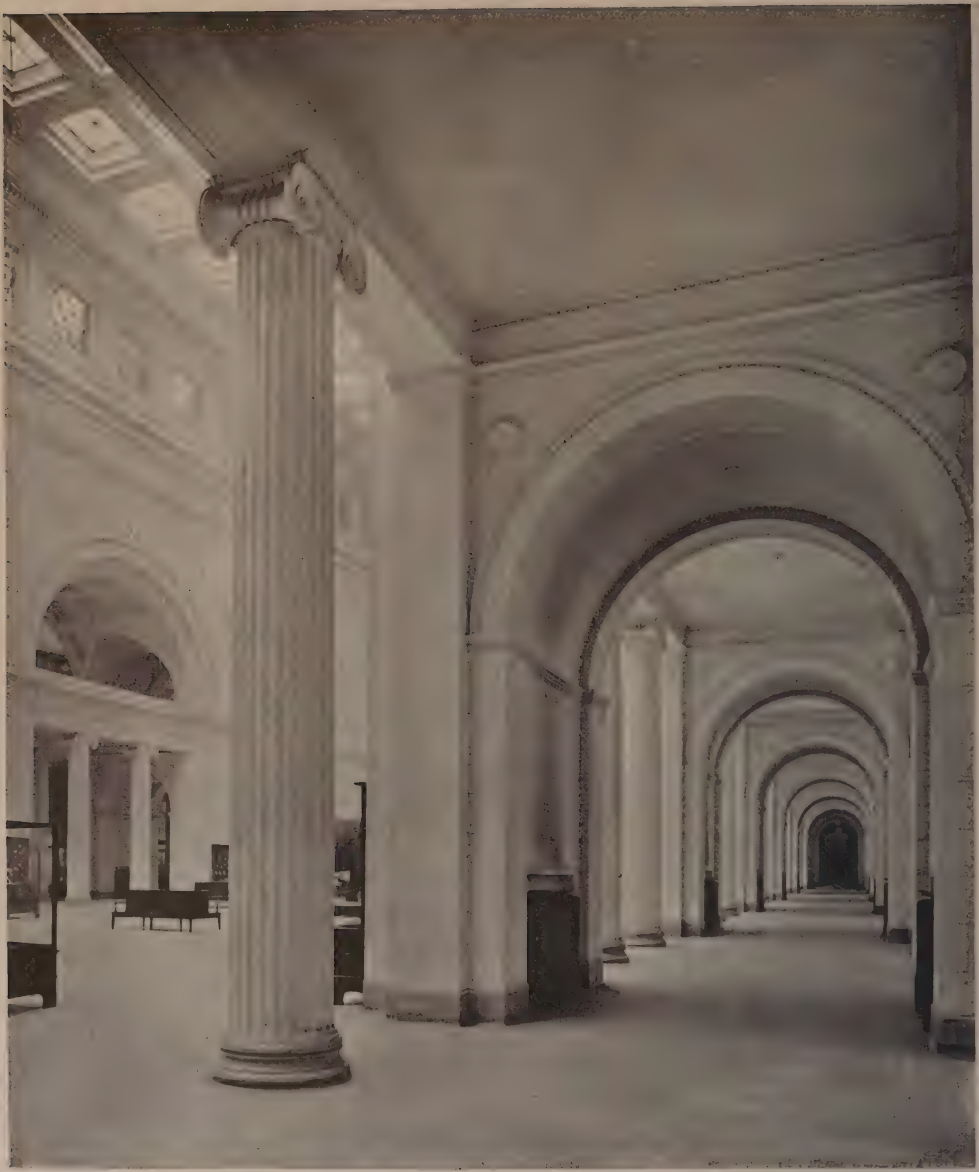
Interior View of Main Entrance
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects



Stairs off Main Entrance
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects



Looking South from the Main Entrance
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects



Circulation on both sides of central hall, leading to exhibition halls
FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS
Graham, Anderson, Probst & White, Architects

practitioner and architecturally intelligent curator, but the results in this great building of the Field Museum will be eagerly watched for by the museum fraternity throughout the country. As these develop the architects will discover certain sciences called museology and museography, which are but branches of the large field of museum theory and practice. Also, as they develop, museum people will discover that there are certain things which they ought to know and which they can with profit learn, about architecture as best used to express their purposes; they will discover that there are some shortcomings of their own which it will not be fair to lay at the architect's door, and certain shortcomings of the architect which he can remedy if they themselves have a better idea of the heft of a brick, the thickness of a wall, the mysteries of ventilation, the power of light, natural and artificial, to make or destroy their collections. A great building like this one in Chicago is a sort of experiment station; young museums study it, older ones envy it the opportunity to start afresh absolved of past missteps and the sins of omission, which in the museum field today loom larger than conscious errors.

Among the features most closely observed will be the effect of the plan upon the public in terms of what the architect calls circulation, whether the visitor will readily find himself and at the required moment discover the way to the exit. It is a curious sidelight upon museums and their use that to delay the quick exit of a visitor is as bad as to delay the time when he first enters.

Museum fag is a serious menace to the progress of educational work in museums; enormous galleries, vast floor areas, the need for constant dodging around cases in a large room, a small number of stairways, a lack of rest rooms—which means rooms with comfortable chairs and no exhibits of any kind—all help in limiting the number of times the visitor will come to the museum on his own initiative. That initiative leads him to information and to pleasure and for the general public that is the purpose of the museum. An endless circuit leading perhaps through galleries containing scientifically or artistically or historically valuable material which is not of a kind to demand attention from this general public will inspire the visitor to no further effort. To be sure, the fault is greatly that of the visitor himself, for it is his policy to look without seeing or noting, not realizing that his eye cannot do for him unconsciously, what the ear can, in bringing him sensations and emotions.

In these large galleries of the Field Museum on the main floor there are vast distances, which presuppose certain interests on the part of the public. We venture to say on the second floor, the visitor's interest will find more fertile ground—that is, so far as the plan quite apart from the contents of the halls, is concerned.

The sum of it is that a museum building of such dimensions is egregious, no matter how beautiful. A group will do the work better, or at least a plan definitely subdivided at the main floor level. In the Field Museum such subdivisions occur at the second floor, where four of the seven longitudinal galleries rise above the others, thus forming three courts on each side, the first floor galleries at the bottoms of these courts being skylighted.

In the end, we pay homage, nevertheless, to a splendid piece of architecture. The building is an inspiring structure. The effect of the nave interior is one of majesty. For the present writer there is but one question—will it work? In other words, is it functionally planned? We need think little about style of architecture, if the plan will work; for here is an educational institution whose aim is service and of that service the collections are but the vehicle. One book is a library, one object a museum—if it is put to work. In this great edifice is a gigantic educational machine of service: the architect's interpretation of that service is the completed monument. In closing we may be permitted to prophesy that in the future—and within a generation's time—architects will so conceive museum buildings that the last thought that could be associated with them will be that of "monument."

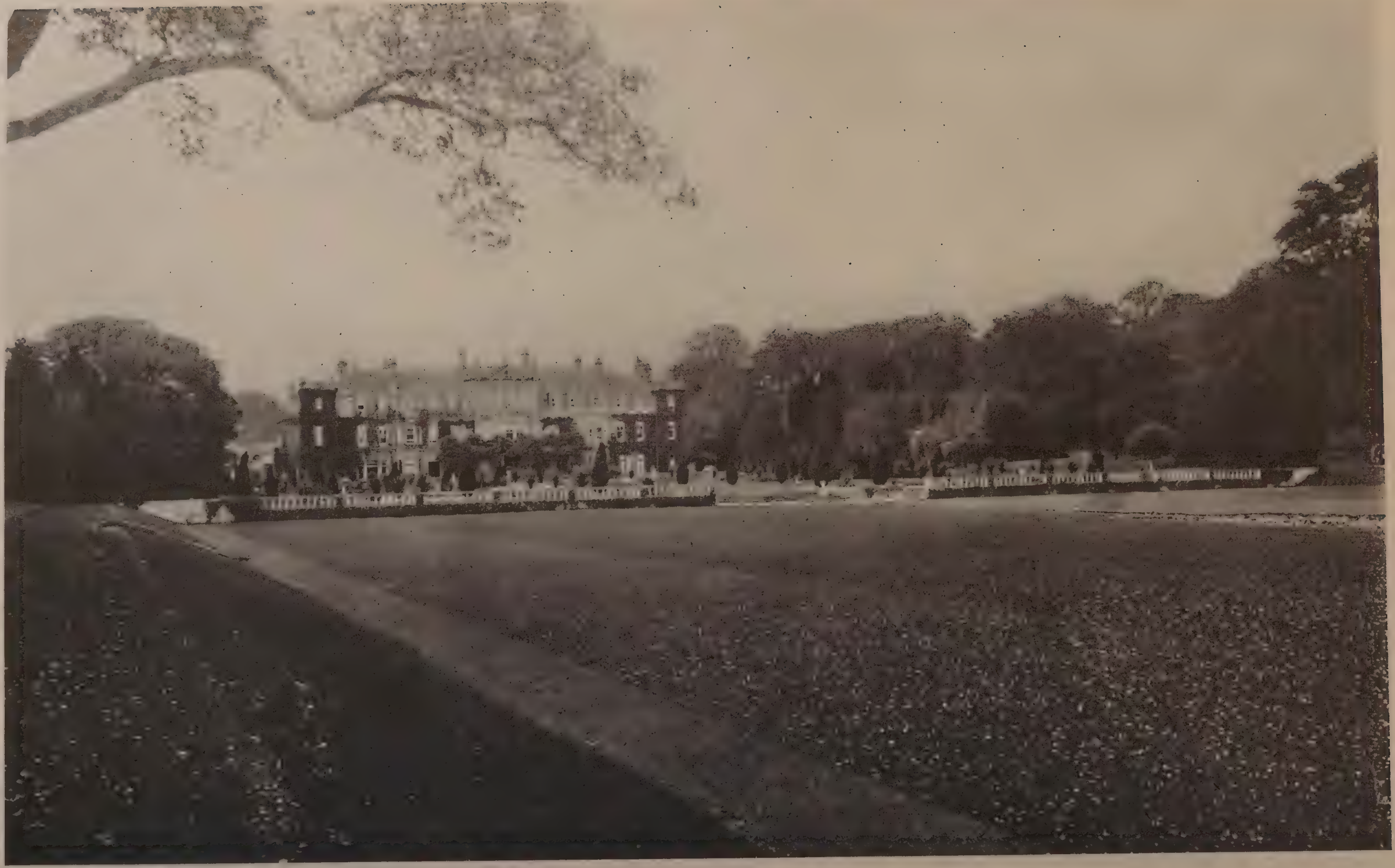


Figure 1
THE LAWN—GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

The GARDENS AT DUFFRYN near CARDIFF, SOUTH WALES

By

Thomas H Mawson, F.L.S.

Duffryn was built about forty years ago by the late Sir John Cory, the well-known philanthropist, whose statue now adorns Cardiff's famous Civic Center.

The Duffryn Estate, which is situated about seven miles southwest of Cardiff, is extensive, mostly undulating pasture lands, picturesquely timbered with fine forest trees, many of which are of great age, possessing all the beautiful characteristics which centuries of our moist climate, with its alternating wind and rain, alone can impart. Modern forestry has not, however, been neglected and there are about one hundred acres of vigorous young plantations, composed for the most part of larch, Scotch firs, sycamores and elms, growing with vigour. In addition there is an experimental fruit farm run on scientific principles on which almost every well-known variety of apples, pears, plums and cherries has been tested.

The estate includes the charming old-world village of Duffryn, with its quaint church, whilst a new village, illustrated and described in my work on "Civic Art" has been begun on the western boundary of the property some three miles distant.

Duffryn stands in a sheltered valley, almost in the centre of the estate which, however, does not command any of the splendid prospects afforded elsewhere on the estate; there were, however, associations attached to the site outweighing all those important considerations which usually operate in the choice of a site for a large mansion like Duffryn.

The design of the residence is reminiscent of an Italian villa, as interpreted by English architects forty years ago, and may be described as a picturesque and even stately pile. The entrance front faces north, with a fine view across the park. The large and numerous entertaining rooms face east and south, whilst the kitchen and service wings are to the west. The south front is supported by a balustraded terrace, which is adorned in the summer time by myrtles and other plants requiring shelter in this climate during the winter months. At the east end of the house is arranged a formal panel garden and on the south front a large sunken tennis lawn. The vegetable and fruit garden, enclosed by high fruit walls, was laid out on the higher ground beyond the service wing. The remaining part of the garden, as originally laid out, consisted of the usual winding walks with shrubberies and lawns dotted over with specimen trees.

On the death of Sir John the property passed to Mr. Reginald Cory, the youngest son, and his sister, Miss Cory, and although the broad outlines of our scheme had been approved, it was principally during this joint ownership that the extensive improvements I am about to describe, have been carried out.

Mr. Reginald Cory is a typical example of the English enthusiast for horticulture and arboriculture at its best. He is a member of the Council of the Royal Horticultural Society, a liveryman of the Ancient Guild of Gardeners, a well-known author on horticulture, his pet subject, and an experimenter whose researches have greatly enriched our store of knowledge in a vastly interesting field of human enterprise. His collection of dahlias, to name but one class of popular flowering plants, includes over six hun-

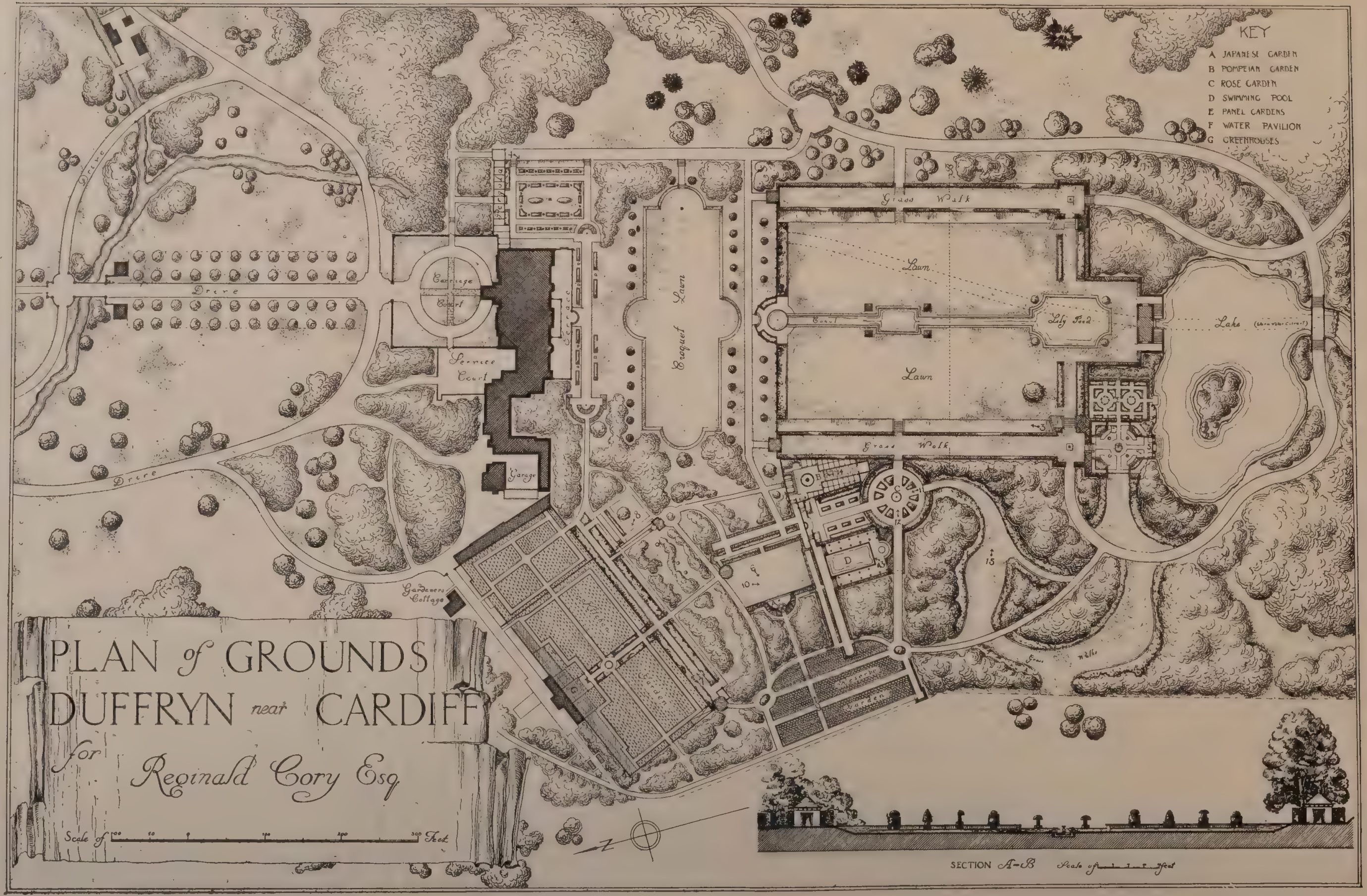


Figure 2
PLAN—GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

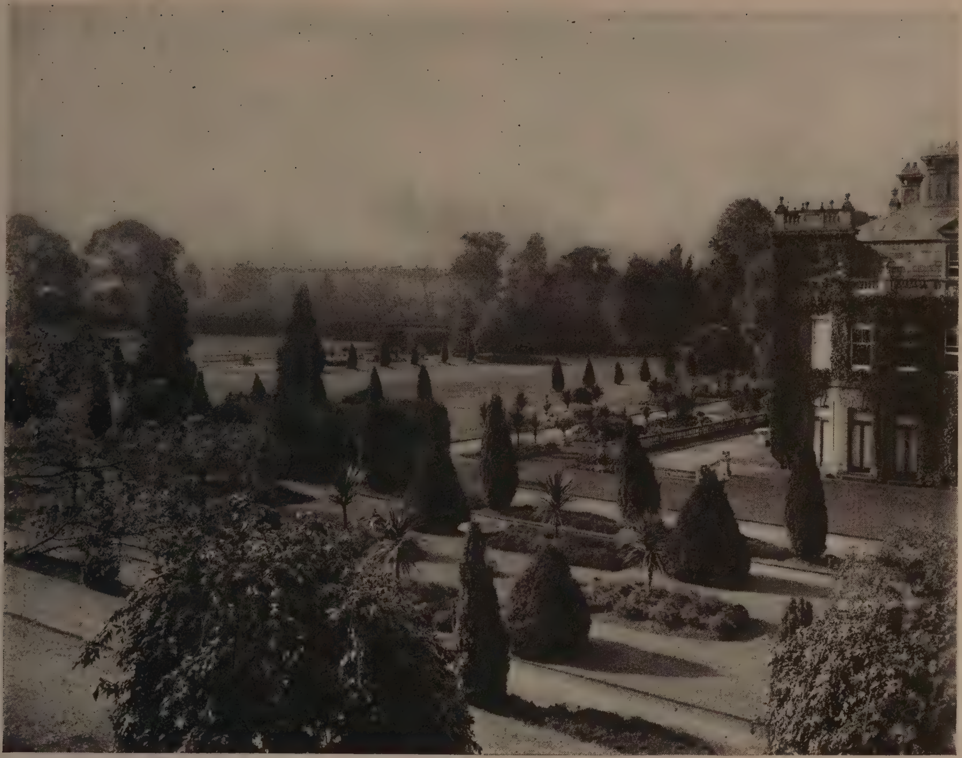


Figure 3
Original gardens, new balustraded wall, lawn embankments and hedges

dred varieties, whilst his collection of conifers and ornamental and flowering shrubs, has been brought together from every quarter of the globe. Today the gardens extend to about fifty acres, requiring a staff of twenty gardeners.

Our work at Duffryn has consisted, in the first place, in the preparation of a comprehensive design for the central and more important part of the gardens and to the detailing of special parts, but many other developments have been evolved by our client, himself an amateur landscape architect, and a keen draughtsman and expert planter.

The work of planning began with the improvement of the approach roads and the design of a carriage court, supported by a balustraded wall with wrought iron entrance gates on the park side; the east side of the court enclosed by a high wall architecturally treated, and the west side by the service wing, which in turn has its own service road and space for turning. Although one of the first parts of the scheme to be planned, this will probably be the last section to be carried out. (See plan.)

Our next care was to plan a great lawn extending from the old part of the garden on the south front, the object being to gain a sense of scale, a restful base to the house and a compensating expanse of view from the principal rooms to make up for the lack of more distant views of landscape. To secure variety, we formed a long central canal and lily pond, extending from the second balustrade to a small lake, to receive which we made use of a natural depression. The end of this canal is to be completed in due course by the erection of a water pavilion overlooking the lake. To ensure the success of this part of our plan, we diverted a running stream which ran down one side of the lawn. This had to be carried for

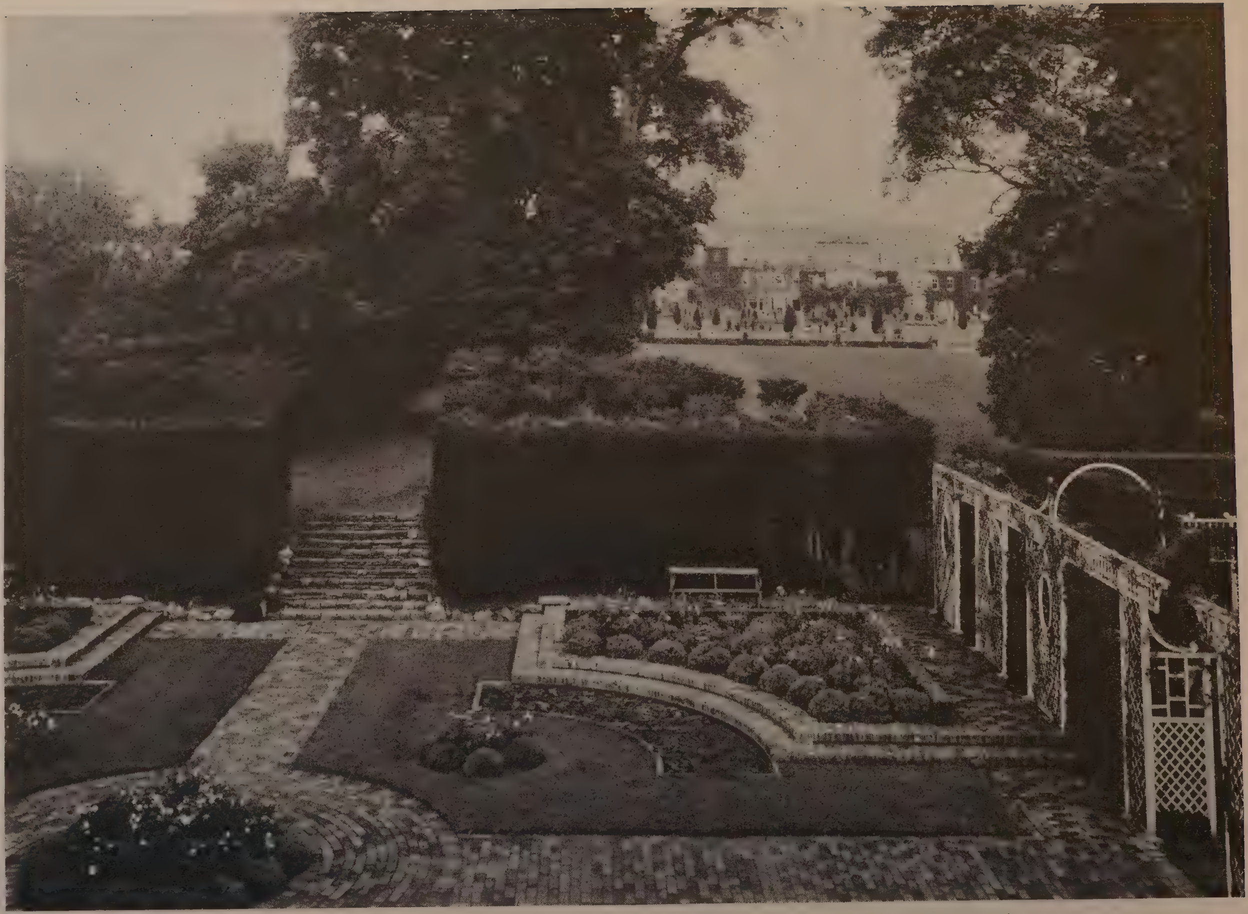


Figure 4
PANEL GARDEN—GARDEN'S AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

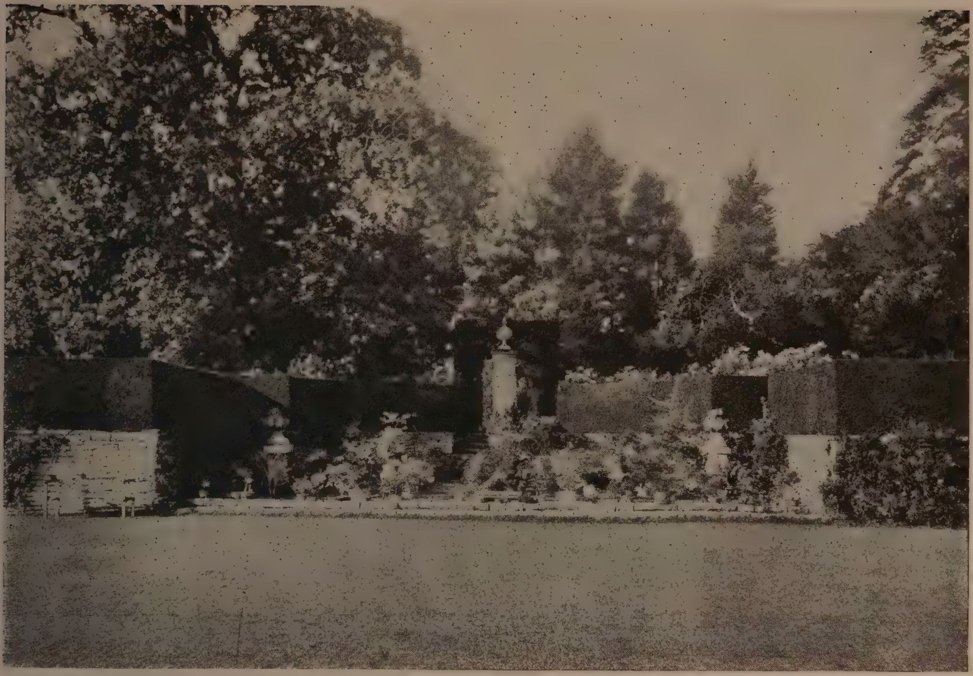


Figure 5
New developments at west end of south front
GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

a part of its length, beginning at the intake at "A" on plan, to point marked "B," in a reinforced concrete culvert, but we made provision for diverting the storm floods which at times are very strong. The general effect of this part of our scheme is well illustrated by Illustration No. 1 and the cross section which shews the raised banks on each side, with hedge of cupressus macrocarpa enclosing the central part of the garden. To the east and west we felt at liberty to indulge in every phase of garden design which the site and my client's catholic views seemed to suggest. Thus we have Japanese and rock gardens, rose gardens, Pompeiian gardens, cloistered and terraced gardens, pond gardens, shrubberies and lawn gardens, Iris gardens, herbaceous borders, fruit and vegetable gardens and lastly, but in some ways most important of all, the pinetums and experimental gardens, in which have been planted one of the choicest and most interesting collections of conifers and shrubs to be found within the confines of Great Britain.

Naturally, deviations have been made in the plan from time to time, but in the main it has been followed. It is true there are startling contrasts and surprises, but as each garden is enclosed in its own screen of architecture or foliage, it seldom clashes with its neighbor.

Illustration No. 3 shows part of the east end of the house with the original gardens on east and south front, along with the new balustraded wall and new lawn embankments and hedges beyond. The panel garden (Illustration No. 4) lies behind the hedge and screen of trees on the west side of the garden. Certain modifications were carried out in this part, for the purpose of securing greater breadth of treatment.

Illustration No. 5 shows new developments at the west end of the south front. Beyond the pillars, sundial and steps, a

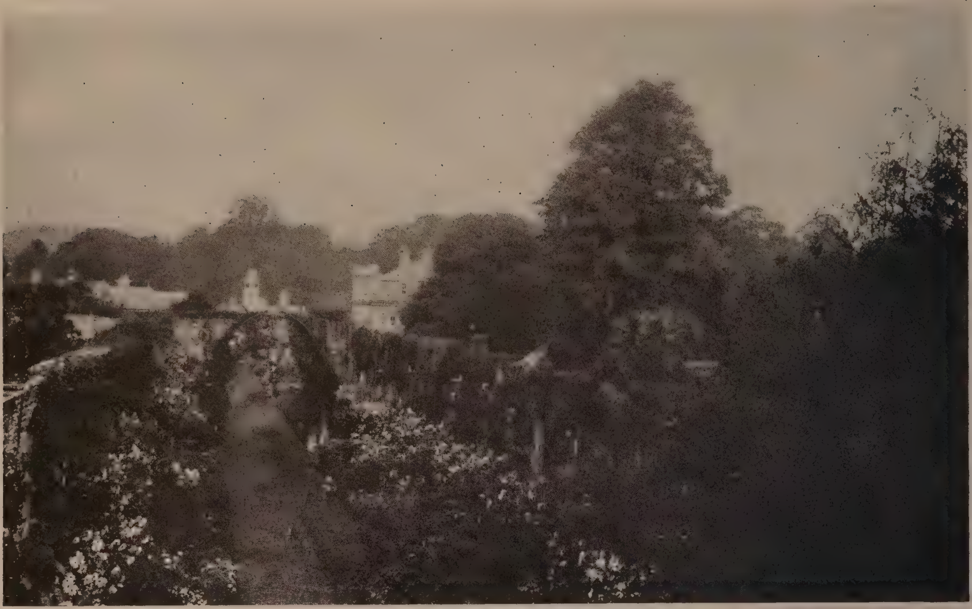


Figure 6
Herbaceous borders
GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

walk leads off at an oblique angle in the direction of the kitchen garden and the herbaceous borders shewn in the next illlustration. There is a fine collection of Japanese plants arranged on the paved platform leading to the steps. The semi-rustic character of the paving and base walls are interesting.

Illustration No. 6 shows the herbaceous borders from the west end, with the park in the distance. The wall on the left of the picture divides this section from the fruit and vegetable garden. The central grass walk is spanned at intervals with strongly constructed arches for roses and clematis, whilst the border to the right of the picture is enclosed by a colonnade of trellis rose arches rising from stone pillars.

Illustration No. 7 shows part of the wall at the east end of the herbaceous garden, along with the pillars supporting the trellis arches. Here the great use made of these walls for choice climbing plants, and ornamental vines give variety and interest to the gardens as a whole.

Illustration No. 8. At the west end of this wall, but on a lower ground level, an experimental garden has been laid out. Here also on the simple framework are tested the newest introductions in climbing roses and ornamental vines.

Illustration No. 9. Passing southwards, the gardens are protected by a number of yew hedges, some of which are pierced to permit of vistas onto the lawns and shrubberies beyond.

Illustration No. 10 shows a view in the circular Rose Garden, looking crossways towards the raised mound on each side of the great central lawn.

Illustration No. 11 shows the Pompeiian Garden, arranged on a level about 3 ft. below the central path, the roofs of the colonnade being arranged as roof gardens. All the columns are in cast cement, delicately coloured and finished with a surface which gives a delightful texture and softness to the general effect.

Illustration No. 12 is the bathing pool, arranged as a panel garden to the west of the central walk leading to the rose garden. During the summer months this

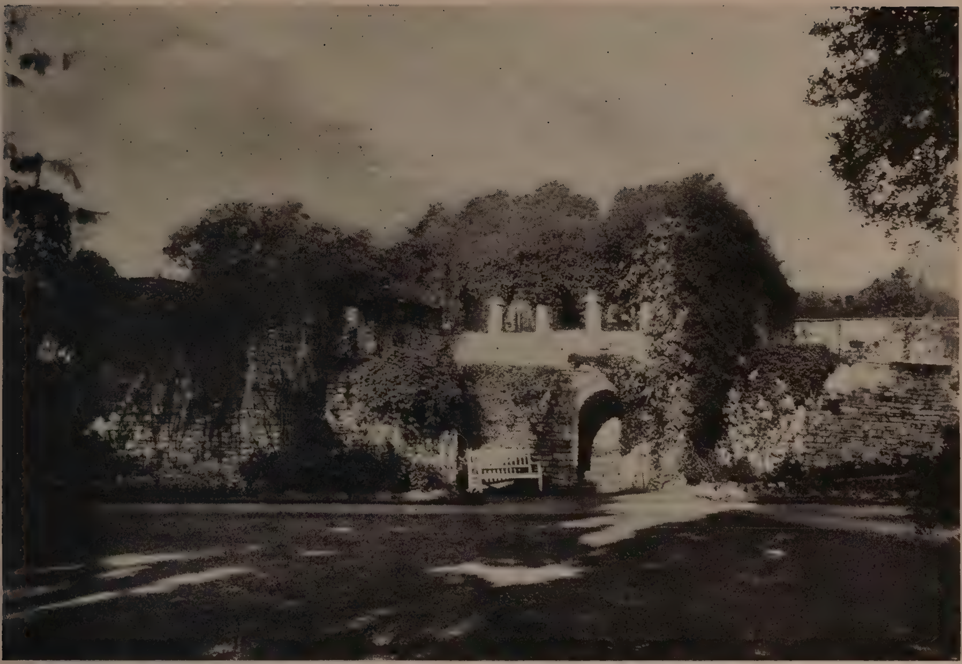


Figure 7
Wall at west end of herbaceous garden

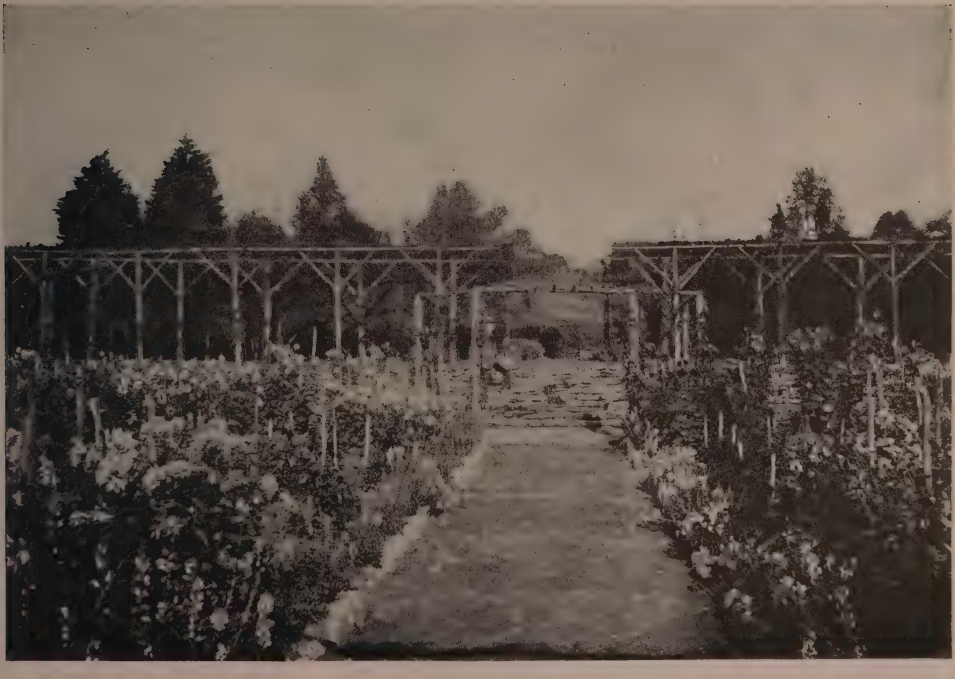


Figure 8
EXPERIMENTAL GARDEN—GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

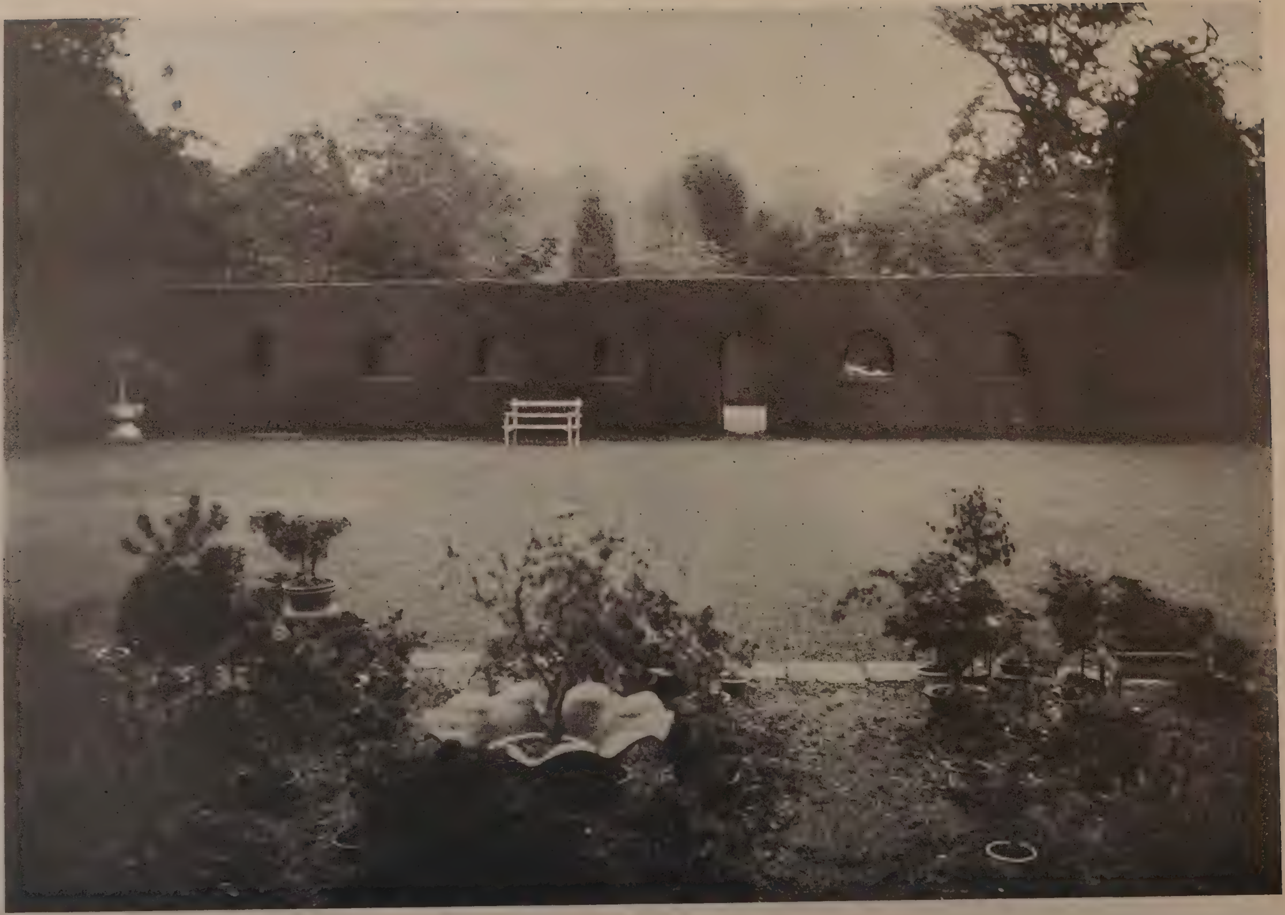
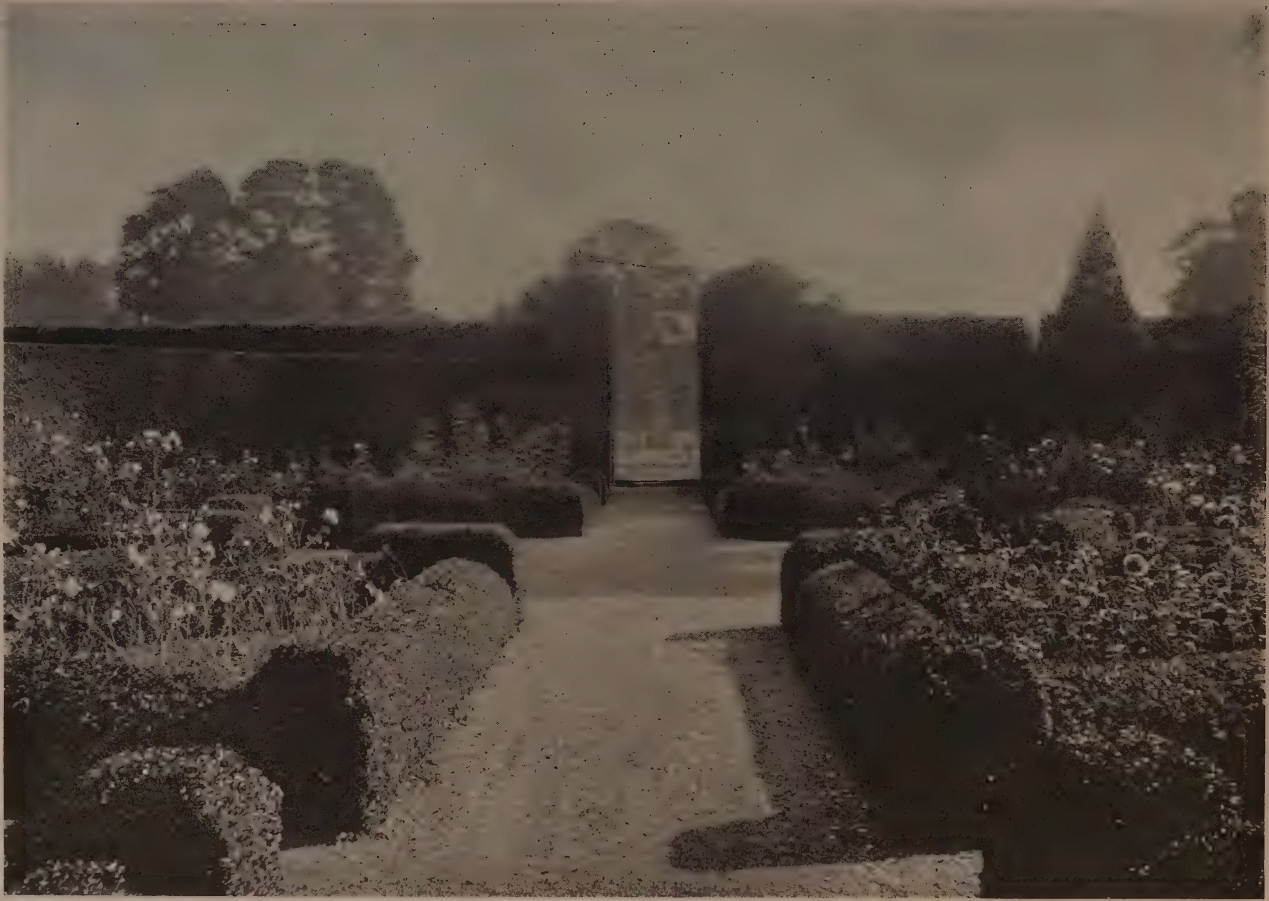


Figure 9
YEW HEDGES—GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects



The Architectural Record *July, 1924*

Figure 10
VIEW IN CIRCULAR ROSE GARDEN—GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

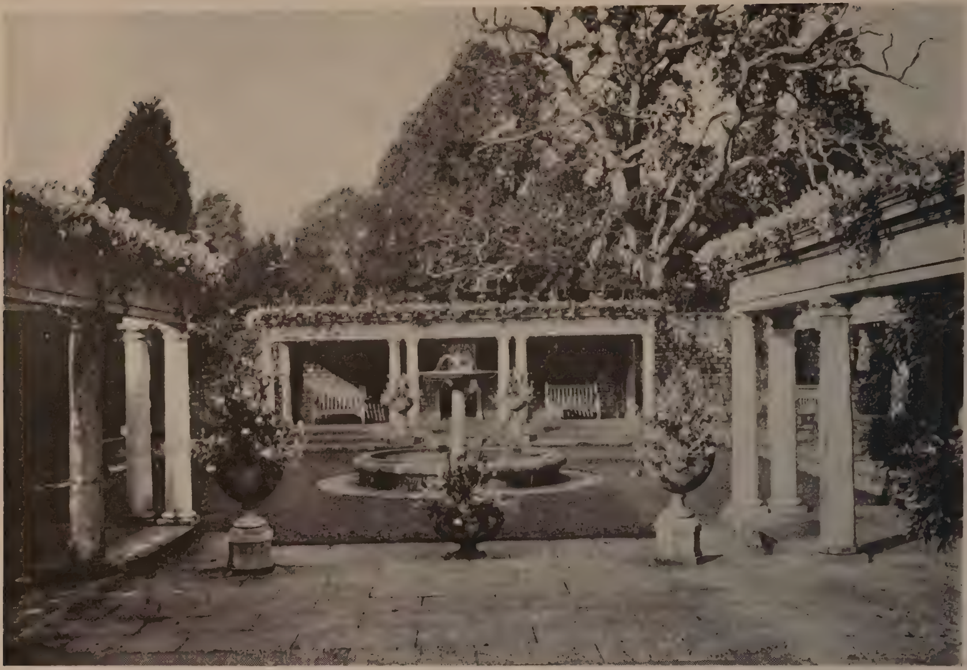


Figure 11
Pompeiian Garden

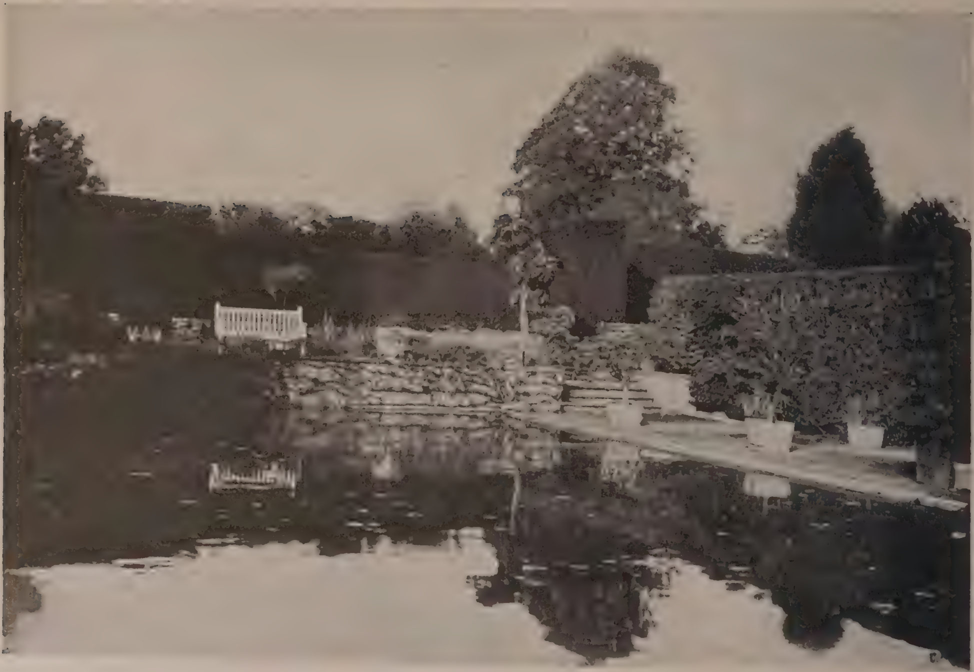


Figure 12
BATHING POOL—GARDENS AT DUFFRYN, NEAR CARDIFF, WALES
Thomas H. Mawson & Sons, Landscape Architects

garden is decorated with myrtles, choice Japanese maples and other plants, arranged in tubs. The general level of this ground is about 2 ft. higher than the level of the central walk.

To the south of these three gardens are two other garden courts, one surrounded by an open brick arched cloister with a view opening onto the lake, and the other as a trellis garden with the somewhat unusual treatment of raised beds planted with dwarf lavender and baby roses, whilst in both this and the previously described garden, lily troughs have been arranged as part of the design. These lily troughs are now planted with a very fine collection of the newest hybrid nympheas, which not only give a note of interest to the garden as a whole, but minister to its owner's love of those plants, which are specially rare and beautiful.

Illustration No. 13. It is always difficult to give in a free manner by photographs a proper conception of a landscape garden design as so much of the effect depends upon the colour and general form of growth, and the contrast arranged between the lower ground shrubs and the towering pine and other trees. It should also be remembered that a garden of this character tends to become more or less in the nature of an arboricultural museum. Notwithstanding, it has been proved at Duffryn that the contrasts between the strict formalism of the major portion of the garden and the landscape environments, give an added value to the appreciation which visitors always show for this interesting garden.

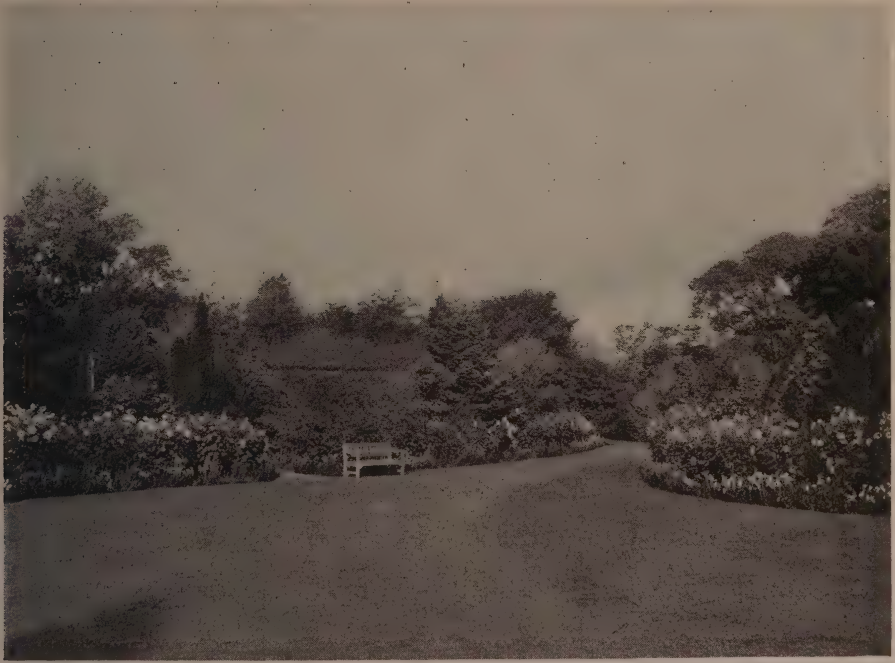


Figure 13

GARDENS AT DUFFRYN, NEAR CARDIFF, WALES

Thomas H. Mawson & Sons, Landscape Architects

LOUIS H SULLIVAN —*His Work*

By

Frank Lloyd Wright

Louis Sullivan's great value as an Artist-Architect—alive or dead—lies in his firm grasp of principle. He knew the truths of Architecture as I believe no one before him knew them. And profoundly he realized them.

This illumination of his was the more remarkable a vision when all around him cultural mists hung low to obscure or blight every dawning hope of a finer beauty in the matter of this world.

As "the name of God has fenced about all crime with holiness" so in the name of Architecture the "Classic" perpetually invents skillful lies to hide ignorance or impotence and belie creation.

But the Master's was true creative activity—not deceived nor deceiving. He was a radical and so one knew, always, where to find him. His sense and thought and spirit were deep-rooted in that high quality of old and new which make them one and thereby he was apprised of the falsity of outward shows that duped his fellows, and that dupe them still.

The names, attributes and passions of earth's creatures change, but—that creation changes never; his sane and passionate vision leaves testimony here on earth in fragments of his dreams—his work.

His work! Who may gauge the worth of the work of such a man? Who shall say what his influence was, or is, or will be? Not I.

That his work was done at all was marvelous. That it could *be,* under the circumstances we call Democracy and that so mock his own fine sense of that much abused idea, was prophetic and for his country the greatest and most potent suggestion.

Here in this aspiring land of the impertinent, impermanent and of commercial importunity, he never struck his colors. The buildings he has left us are the least of him—in the heart of him. He was of infinite value to the country that wasted him because it could not know him.

Work must be studied in relation to the time in which it presented its contrasts, insisted upon its virtues and got itself into human view. Remember if you can the contemporaries of Louis Sullivan's first great work, the Chicago Auditorium. Those contemporaries were a lot of unregenerate sinners in the grammar of the insensate period of General Grant Gothic.

Imagine this noble calm of the Auditorium exterior, the beautiful free room within, so beautifully conceived as a unit, with its *plastic* ornamentation, the quiet of its deep cream and soft gold scheme of color, the imaginative *plastic* richness of this interior, and compare both with the cut, butt and slash of that period—the meaningless stiffness that sterilized the Chicago buildings for all their ambitious attitudes and grand gestures. They belonged to a world to which the sense of the word *"plastic"* had not been born. That the word itself could get itself understood in relation to architecture is doubtful—and then see what Louis Sullivan's creative activity from that time on meant to Architecture as an art.

Back of that first great performance of his was a deepening knowledge, a tightening grasp on essentials. Much in the great effort got away from him; it wore him out; it was all at tremendous pressure, against fearful odds—but the Chicago Auditorium is good enough yet to be the most successful room for opera in the world. I think I have seen them all. His genius burst into full bloom with the impetus of the success and fame that great enterprise brought to him and to Adler. Dankmar Adler, his partner, was a fine critic, a master of the plan and of men. His influence over Louis

Sullivan at that time was great and good.

The Getty tomb was a work that soon followed the Auditorium as did the Wainwright Building in St. Louis to greater purpose. The Getty tomb in Graceland Cemetery was a piece of sculpture, a statue, an elegiac poem addressed to the sensibilities as such. It was Architecture in a detached and romantic phase, a beautiful burial casket, "in memoriam" but —a memorial to the architect whose work it was. His "type," the "form that was peculiarly his was never better expressed."

When he brought in the board with the motive of the Wainwright Building outlined in profile and in scheme upon it and threw it down on my table, I was perfectly aware of what had happened. This was Louis Sullivan's greatest moment—his greatest effort. The "skyscraper," as a new thing beneath the sun, an entity with virtue, individuality and beauty all its own, was born.

Until Louis Sullivan showed the way the masses of the tall buildings were never a complete whole in themselves. They were ugly, harsh aggregates with no sense of unity, fighting tallness instead of accepting it. What unity those masses now have, that pile up toward New York and Chicago skies, is due to the Master-mind that first perceived one as a harmonious unit—its height triumphant.

The Wainwright Building cleared the way and to this day remains the master key to the skyscraper as a matter of architecture in the work of the world. The Wainwright and its group were Architecture living again as such in a new age—the Steel Age—*living in the work of the world!* The Practical therein achieving expression as Beauty. A true service rendered humanity in that here was proof of the oneness of Spirit and Matter, *when both are real*—a synthesis the world awaits as the service of the artist and a benediction it will receive when false ideas as to the nature and limitation of art and the functions of the artist disappear.

The Transportation Building at the Columbian Exposition cost him most trouble of anything he ever did. He got the great doorway "straight away," but the rest hung fire. I had never seen him anxious before, but anxious he then was. How eventually successful this beautiful contribution to that fine collection of picture-buildings was, itself shows. But the Transportation Building was no solution of the work of the world as was the Wainwright Building. It was a "picture-building"—but one with rhyme and reason and, above all, individuality; a real picture, not a mere pose of the picturesque. It was not architecture in its highest sense, except as a great theme suggested, an idea of violent changes in scale exemplified, noble contrasts effected —meanwhile its excuse for existence being the enclosure of exhibition space devoted to transportation. It was no masterful solution of a practical problem. It was a holiday circumstance and superb entertainment, which is what it was intended to be. It was original, the fresh individual note of vitality at the Fair—inspiring, a thing created but—something in itself, for itself alone. Except that if here—where a mischief was done to architectural America from which it has never recovered, by the introduction of "the classic," so called, in the Fair buildings, as the "Ideal,"—had that note of individual vitality as expressed in the Transportation Building been heeded for what it was worth, that mischief might largely have been averted. Only the Chicago Auditorium, the Transportation Building, the Getty Tomb, the Wainwright Building are necessary to show the great reach of the creative activity that was Louis Sullivan's genius. The other buildings he did are blossoms, more or less individual, upon these stems. Some were grafted from one to the other of them, some were grown from them, but all are relatively inferior in point of that quality which we finally associate with the primitive strength of the thing that got itself done regardless and "stark" to the Idea: sheer, significant, vital.

As to materials, the grasp of the Master's imagination gripped them all pretty much alike. As to relying upon them for beauties of their own, he had no need—no patience. They were stuff to bear the stamp of his imagination and bear it they did, cast iron, wrought iron, marble, plaster, concrete, wood. In this respect he did not live up to his principle. He was too rich in fancy to allow anything to come for its own sake between him and the goal of his desire. It would have been to him like naturalistic noises in the orchestra.

Where his work fell short, it fell short of his ideal. He could not build so well as he knew nor so true to his thought as he was able to think—often. But some times he did better than either.

I see his individual quality in that feature of his work that was his sensuous ornament—as I see the wondrous smile upon his face—a charm, a personal appealing charm. So very like and so very much his own. It will be cherished long because no one has had the quality to produce out of himself such a gracious, beautiful response, so lovely a smile evoked by love of beauty. The capacity for love, ardent, true, poetic, was great in him as this alone would prove. His work in this was interior, esoteric, peculiar to himself. It is none the less precious for that. Do you prefer the Greek? Why not? Do you admire the Chinese? Why not, as a matter of course? Do you prefer the Romanesque? It is your privilege. Perhaps you respond to old Baroque? Your reactions to Gothic you find more satisfying? Doubtless. But do you realize that here is no body of culture evolving through centuries of time a "style," but an *individual* in the poetry-crushing environment of a cruel materialism, who, in this, invoked the Goddess that hitherto whole civilizations strove for centuries to win, and won her with this charming smile—the fruit of his own spirit.

Ah, that supreme, erotic, high adventure of the mind that was his ornament! Often I would see him, his back bent over his drawing board, intent upon what? I knew his symbolism—I caught his feelings as he worked. A Casanova on his rounds? Beside this sensuous master of adventure with tenuous, vibrant, plastic form, Casanova was a duffer; Gil Blas a torn chapeau; Bocaccio's imagination no higher than a stable-boy's. Compared to this high quest the Don's was as Sancho Panza's ass. The soul of Rabelais alone could have understood and would have called him brother. How often have I held his cloak and sword while he adventured in the realm within, to win his mistress; and while he wooed the mistress, I would woo the maid! Those days! And now, I say, this caress that was his own should be his own, forever sacred to him and treasured high for its own sake—this rhythmic pulse of the wings of America's creative genius. Whoso has the temerity to undertake to imitate it will fail. Take his principle who will, none may do better—and try the wings that nature gave to you. Do not try to soar with his. Has the time come when every man may have that precious quality called style for his very own? Then where, I ask you, are the others? Eros is a fickle god and hard to please. Musing with blinded eyes he has heard from earth the music of an immortal strain; henceforth will take no less.

Genius the Master had—or rather it had him. It possessed him, he revelled in it, squandered it and the lesser part of him was squandered by it. He lived! And compared to what came to him in life from his effort, the effort itself being a quality of it, the greatly successful careers were, I imagine, relatively lifeless.

Yes, genius he had in most unequivocal sense—true genius—there is no other kind—the effect of which is not seen in his own time, nor can it ever be seen. Human affairs are of themselves plastic in spite of names and man's ill advised endeavors to make them static to his will. As a pebble cast into the ocean sets up reactions lost in distance and time, so one man's genius goes on infinitely forever because it is always an expression of *principle*. And therefore, in no way does it ever run counter to another's genius. The Master's genius is perhaps itself a reaction, the initial force of which we can not—need not—see.

Of one thing we may be sure—the intuitions of such a nature, the work to which he put his hand, no less than the suggestion he himself was to kindred or aspiring natures, is worth more to the future in any conservative or progressive sense than all the work of all the schools, just as example is more valuable than precept.

Is it not true that *individuality* is the supreme entertainment of life? Surely it is the quality most precious in it and most worthy of conservation; veritably the visible hand of the Creator! Here in Louis Sullivan was an example as clear and convincing as any, anywhere, at any time, under conditions as unpromising to fulfilment as ever existed.

Is it not probable that the social solidarity that produced the great "styles" exists no longer in the same sense and that never more will such a manifestation appear, especially in a nation composed of nationalities like ours? But, as free opportunity offers, when America awakens spiritually or is awakened by Spirit, individuality will come to flower in almost as many styles as there are individuals capable of style. And there will arise more and more men who are capable of it. Until we have a wealth of vital expression. We will then only need order in the aggregate—an "order" which will be established eventually by the nature of the individual intelligence capable of style—*itself* perceiving the necessity for it and making it therefore a veritable condition of every such individual expression. The nature capable of style is more capable than any other of the appropriate conduct of that power when and wherever need be.

Is not that a more desirable and logical conclusion to draw from the principle upon which this country was founded than that the dead level of a mongrelized version of the "Classic," a renaissance of Renaissance, should be allowed to characterize the mongrel as mongrel—and nothing more?

H. H. Richardson, great emotionalist in architecture that he was, elected to work in the "style" Romanesque. The Master dug deeper and made style for himself out of the same stuff the Romanesque was made from, and the Gothic too. With all these examples before us of "styles," surely man may penetrate to the heart of *Style* and unveiling its secret be master of his own. And as a master of this type was Louis Sullivan—esoteric though his synthetic style may be. The leadership of Stanford White was exoteric, his mind that of a connoisseur. His gift was selective and we owe to him and his kind the architectural army of "good taste" that smothers the practical in applied expedients—an army whose beauty-worship is content with the beauty of the painted lady, the henna, paste and rouge; or the more earnest kind, the avid antiquarian or the far too credulous historian. What does it matter if Tradition's followers fail to see that Louis Sullivan's loyalty to Tradition was wholly complete and utterly profound? His loyalty was greater than theirs, as the Spirit transcends the Letter. What lives in New York architecture is little enough, and in spite of its grammar and far beyond the style-mongering it receives in the Atelier. It is the force of circumstance piling itself inexorably by mere mass into the sky—the darkening canyons that are paths leading into darkness, or to Death! It seems incredible now, but such unity as those tall masses may have is due to the master-mind, that first conceived and contributed one as a unit. The Wainwright Building cleared the way for them—and to this day remains the master key to the skyscraper as Architecture the world over. Why is it so difficult for standardization to receive to a greater degree the illumination from within that would mean Life instead of Death? Why is the vision of such a master-mind lost in the competitive confusion of so-called ideas and jostling ambitions? Why is the matter, except for him, still all from the outside—culture nowhere sane nor safe except as the imitation or the innocuous is safe—which it never is, or was. Look backward toward Rome!

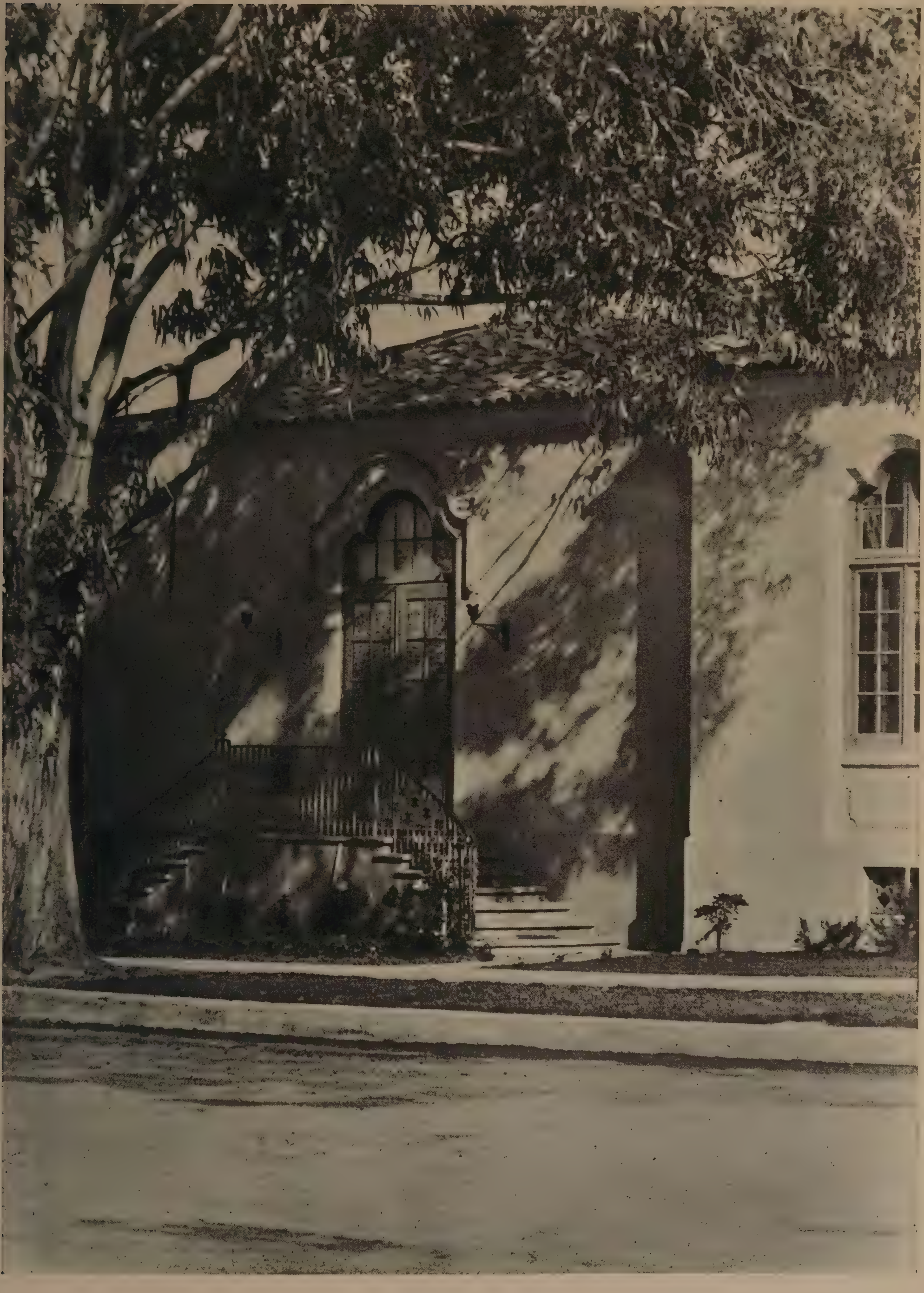
Yes, the great Master's contribution as to form may die with him. No great matter. This Way-shower needs no piles of perishable granite, no sightly shapes to secure his immortality or make good his fame. It is his fortune that in the hearts of his fellows his gift was real. The boon to us of his journey on this earth, in the span of life allotted to him, is beyond all question, all calculation. His work was the work of a man for men—for sincere humanity. The look of the thing he did may or may not appeal to the imagination trained to regard certain rhythms, spacings, forms and figures as architecture. Many faults may be laid to him, but they are the rough hewn edges of the real thing. And what he did, even more than the way he did it, will always repay painstaking study if it is free study. It can only vex and puzzle the pedantic mind and end in its hostility—the hostility that never more than entertained and amused him although eventually it did destroy his usefulness. That hostility of the provincial mind is found on the farm, in the small town, on Main Street, on Fifth Avenue, in the Seats of the Mighty, in the Church, in New York and in Hollywood. Wherever that type of mind is found it will accept no radical, because anything radical is the death of the provincial. Instinctively the provincial mentality feels this, and fears it and therefore hates. And Louis Sullivan was a radical in the same sense that the Ideal-Man was the consummate radical of human history.

Not long ago—weary—he said to me in a despondent moment that it would be far more difficult now to do the radical work he did—more difficult to get accepted than when he worked. The dead level of mediocrity had risen to the point where herd-psychology had accepted as normal the "good form" of the schools, and stopped thinking. The inevitable drift had set in. But no, it is not so! The torch flung to the Master hand from the depths of antiquity, from the heart of the world, and held faithfully and firmly alight and aloft for thirty years at least by him, shall not go out. It has never yet, since time began for man, gone out. Willing hands have already caught the divine sparks and little running fires are lighted on the hills and glimmer in the dark; some flickering and feeble; some with more smoke than fire; some guttering in candle grease; but some—clear, candescent flame—that shall rise high and higher until the darkness the tired, way-worn Master saw—that spectre looming as the horror of his country's shade—will fade in true illumination. Hope too long deferred will make the strongest hearts foreboding. For the consummate radical the Kingdom on Earth was "at hand" nineteen hundred years ago. It is a little nearer now. This laborer in the same vineyard with a similar hope to the same purpose has gone, his hope still high. The sire of an immortal strain has gone unterrified into the gulf which we call Death. A great chief among men's spirits, he has been made one with Nature—and now he is a presence to be felt and known in darkness and in light, spreading a vital and benign influence wherever quick dreams spring from youthful minds or careworn, toil-stained comrades to his thought may need—"that Light whose smile kindles the universe. That Beauty in which all things work and move."

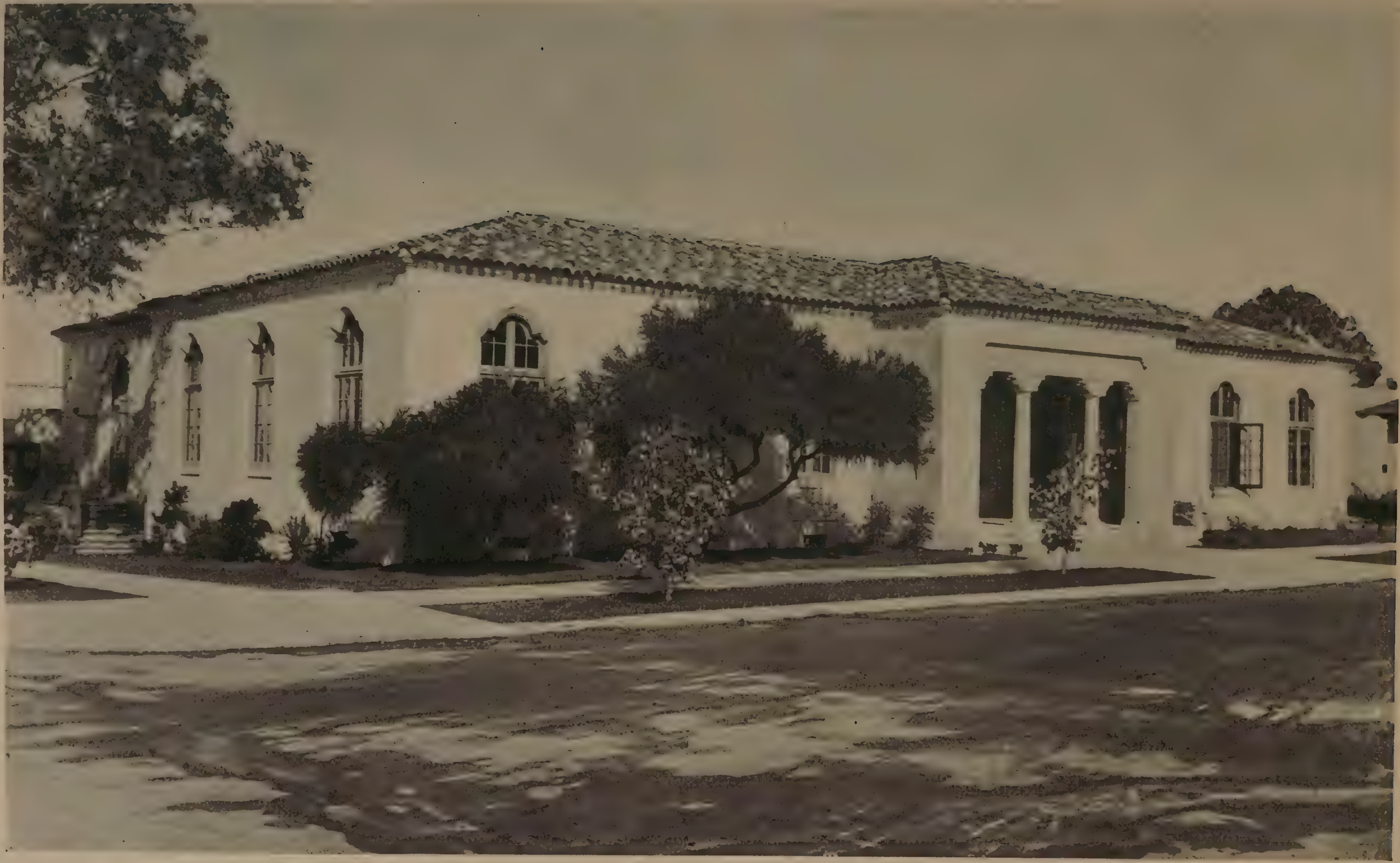
"He lives, he wakes, 'tis Death is dead—not he." Not he, who, in a world that chains and fetters humankind, was Life's green tree. A benediction, he, that will outlive the Curse—live down the Lie.

PORTFOLIO

CVRRENT · ARCHITECTVRE



Entrance to Museum
LA JOLLA PUBLIC LIBRARY, LA JOLLA, CALIFORNIA
Wm. Templeton Johnson, Architect



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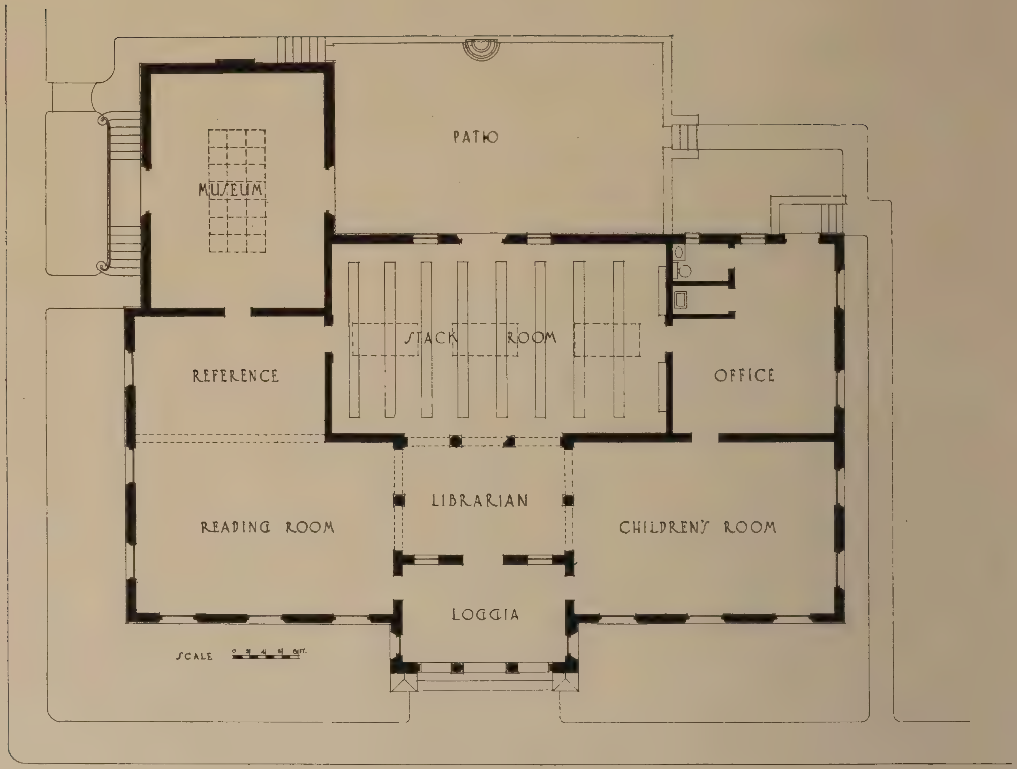
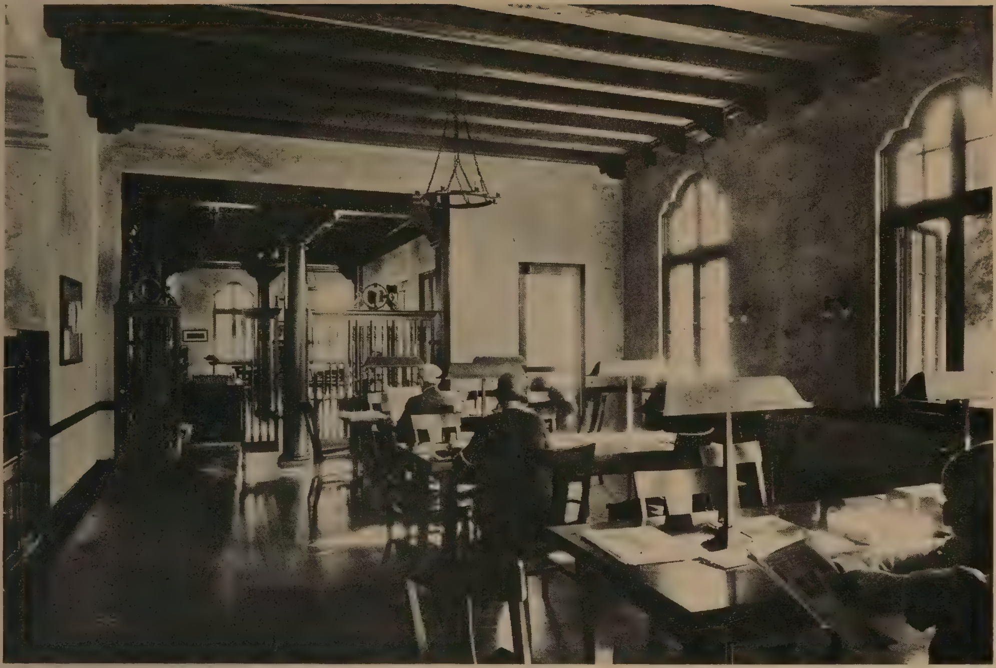
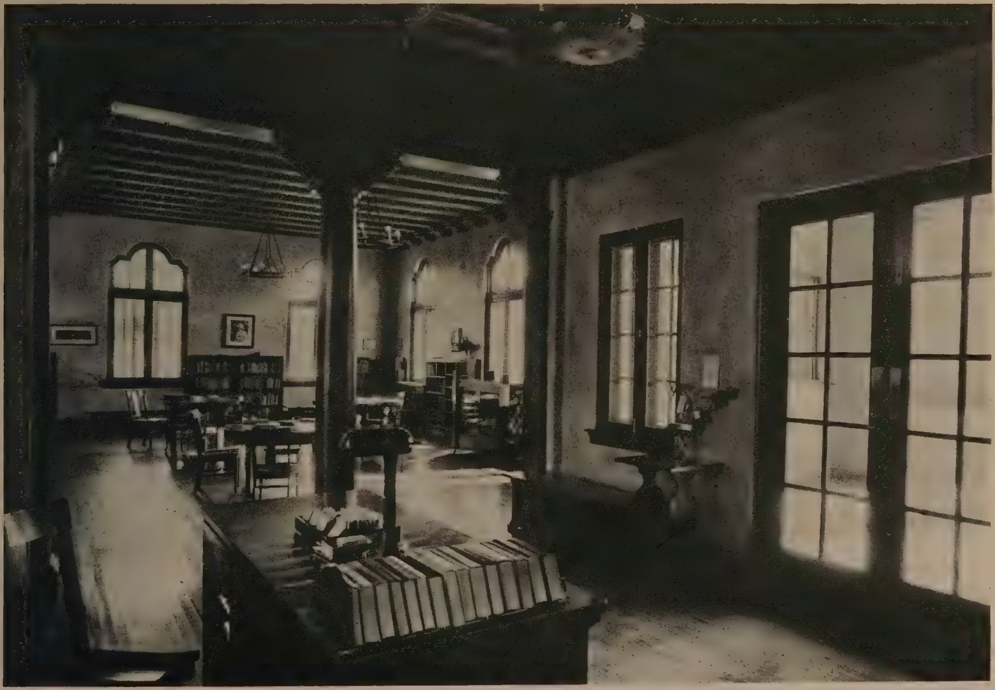


Floor Plan
LA JOLLA PUBLIC LIBRARY, LA JOLLA, CALIFORNIA
Wm. Templeton Johnson, Architect

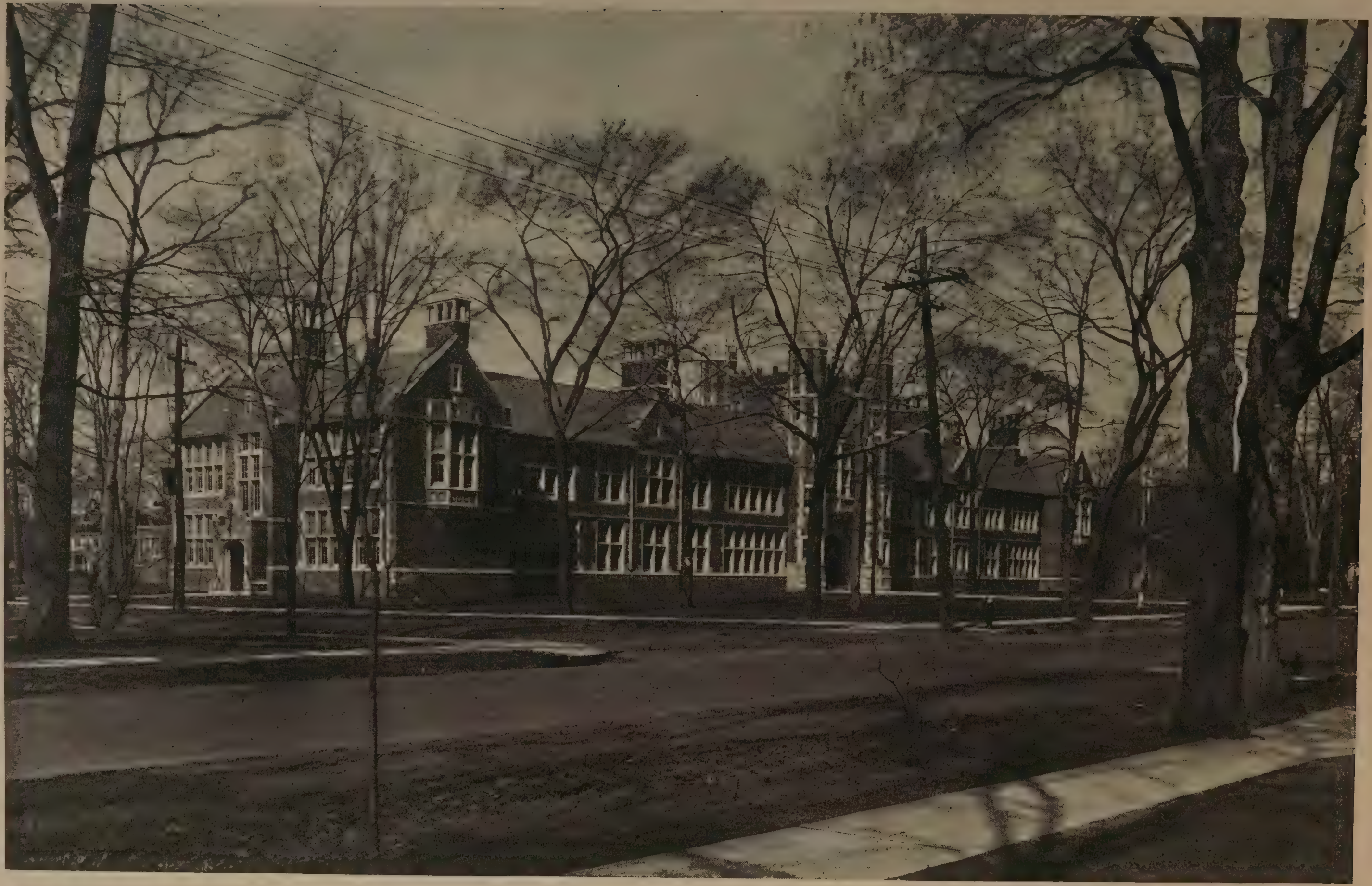


Reading Room

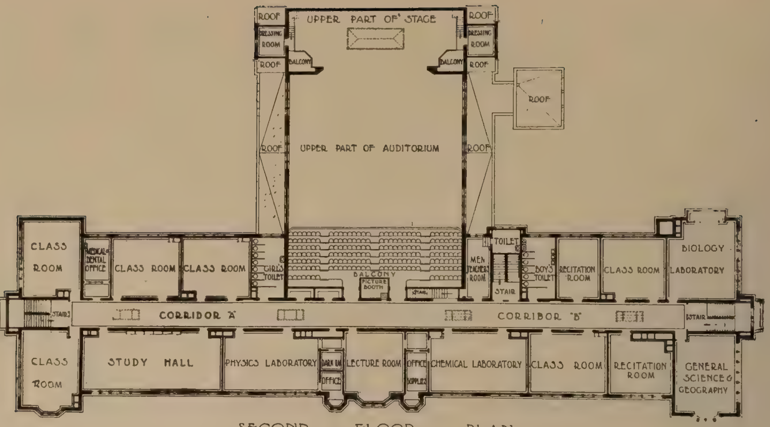


Librarian's Room

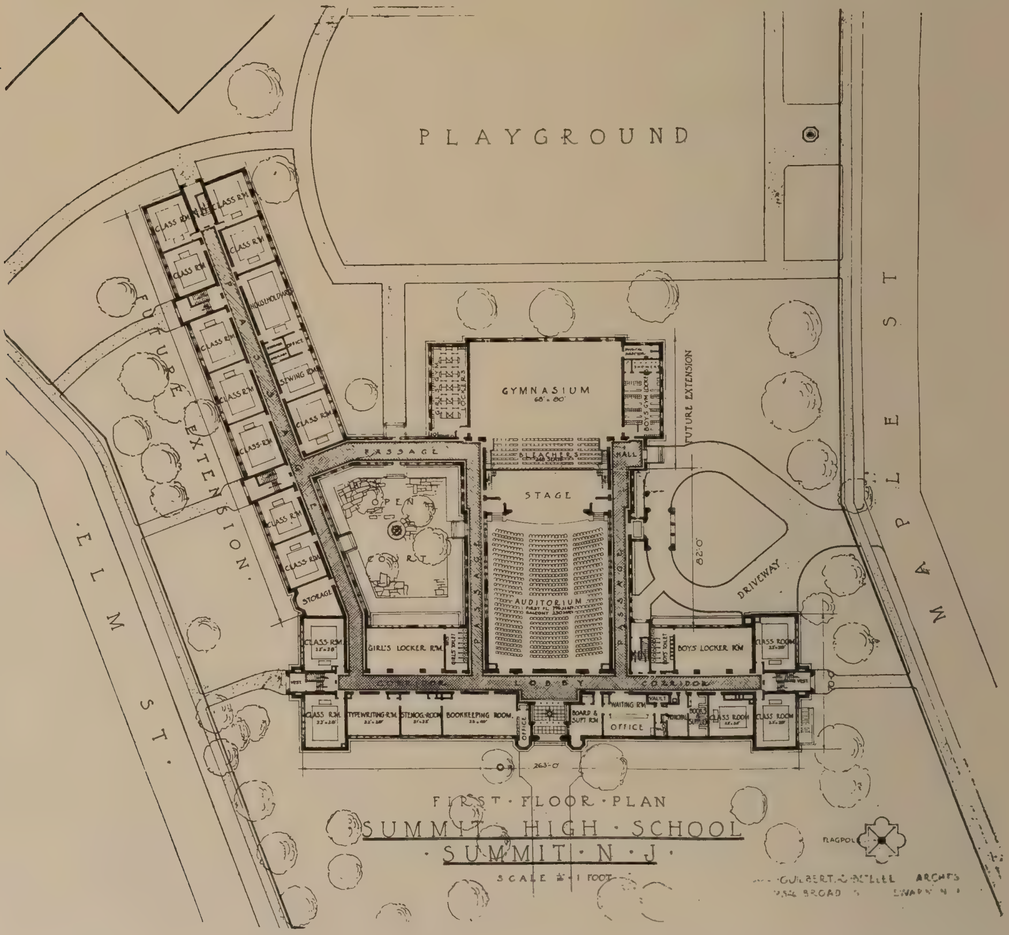
LA JOLLA PUBLIC LIBRARY, LA JOLLA, CALIFORNIA
Wm. Templeton Johnson, Architect



Main Façade
SUMMIT HIGH SCHOOL, SUMMIT, NEW JERSEY
Guilbert & Betelle, Architects



SECOND FLOOR PLAN



SUMMIT HIGH SCHOOL, SUMMIT, NEW JERSEY
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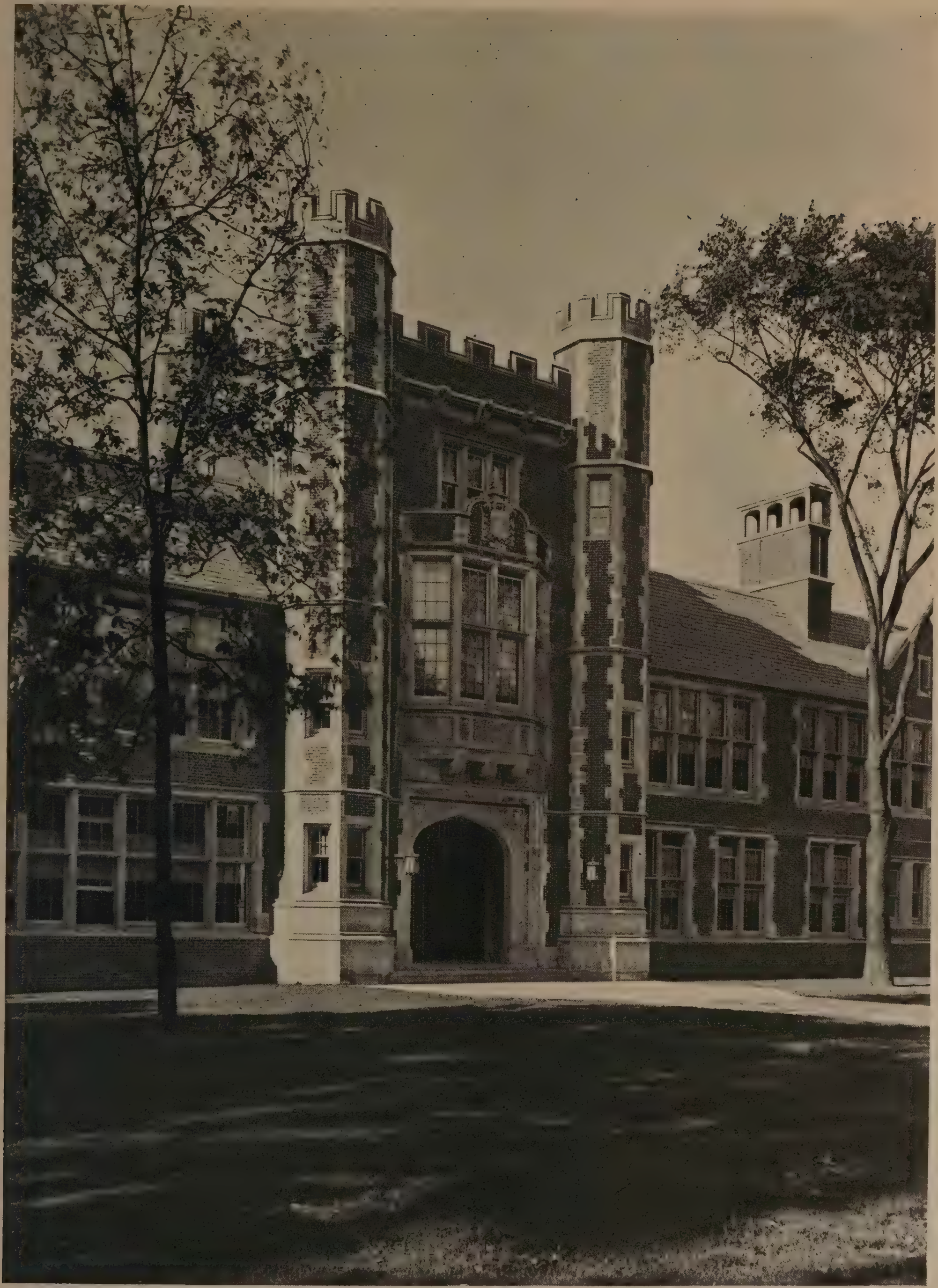

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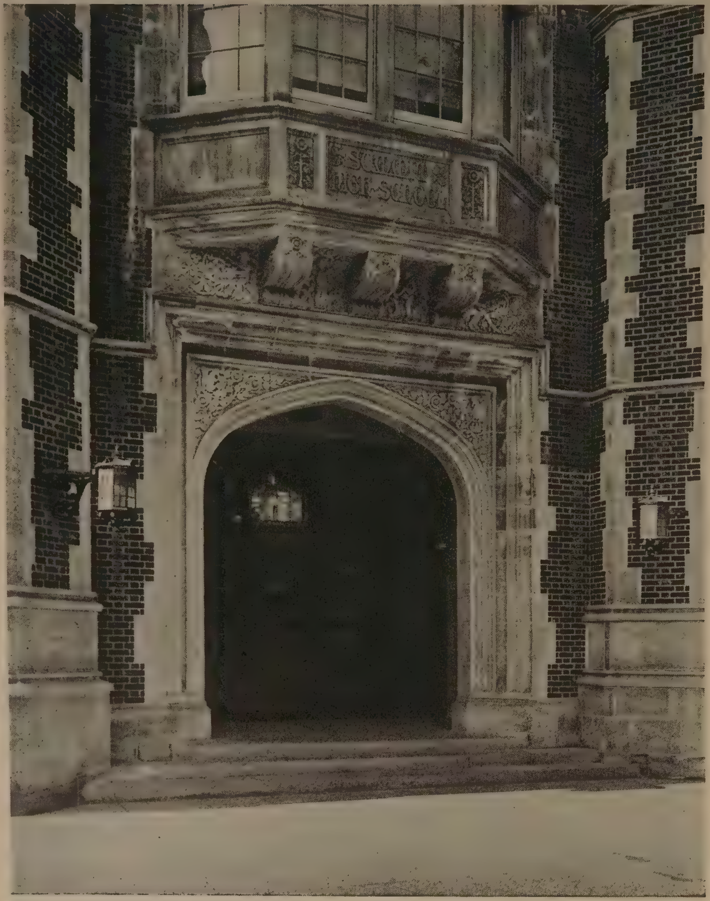
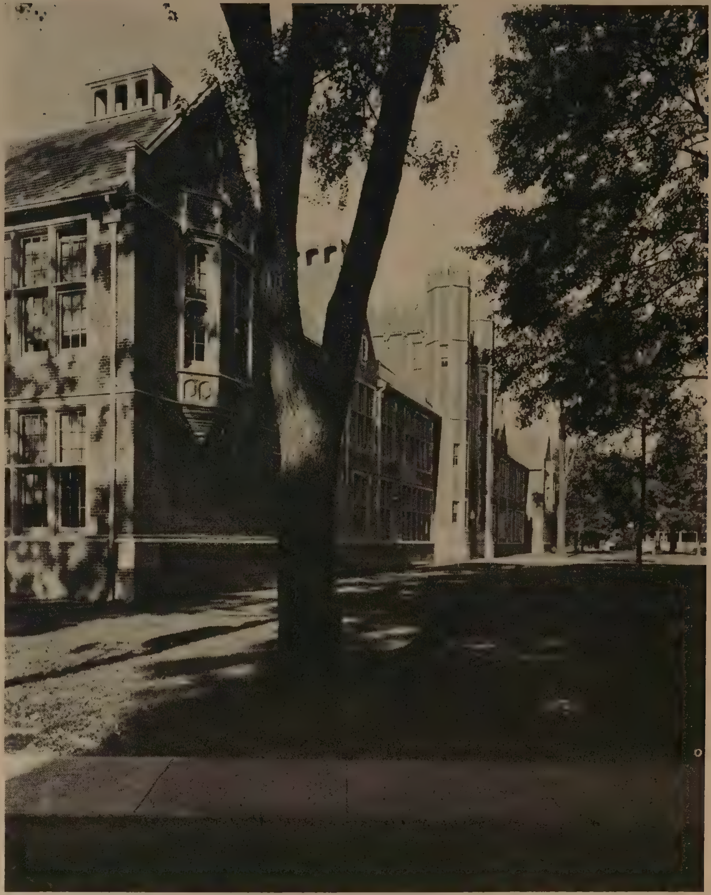
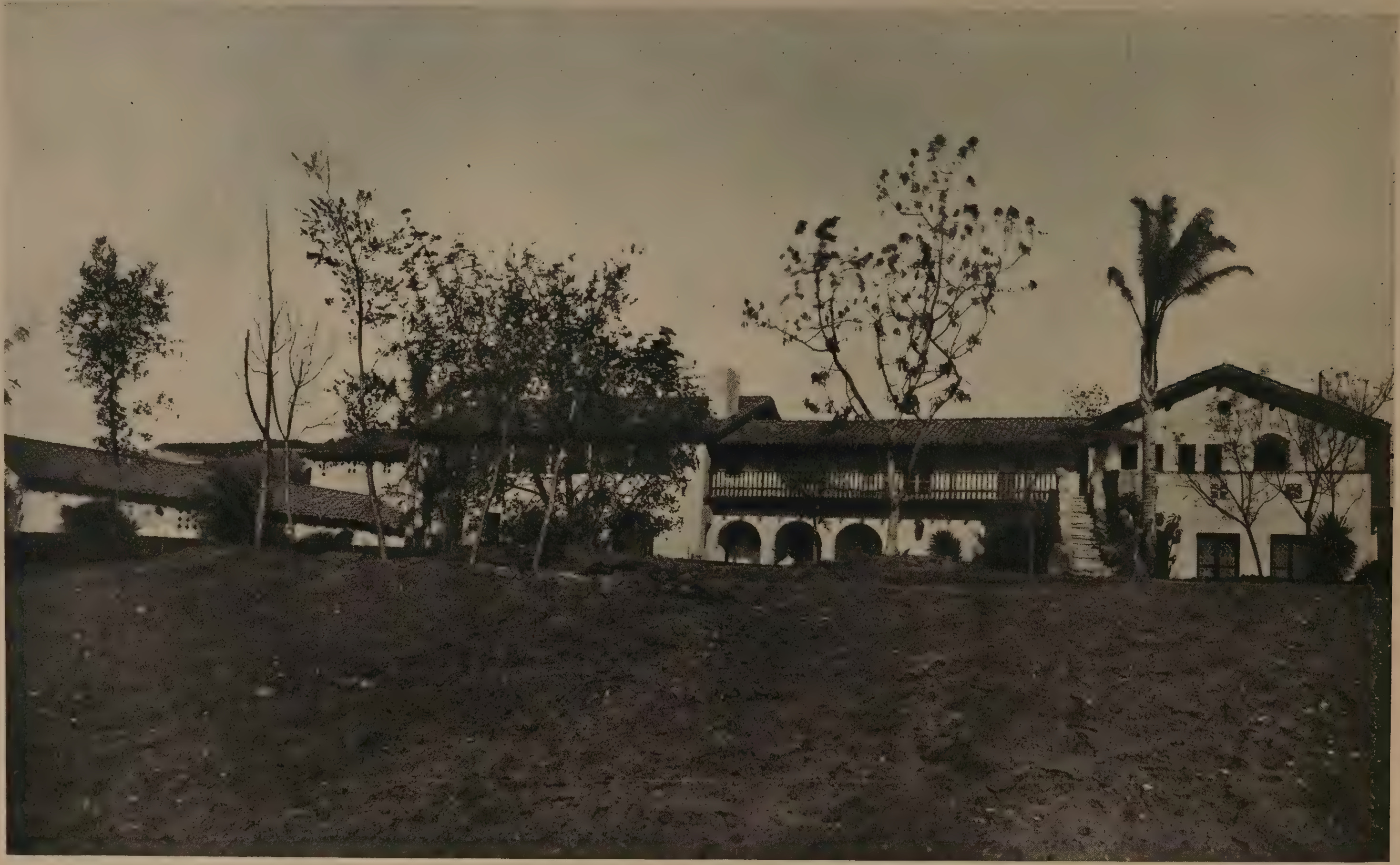


Entrance Detail



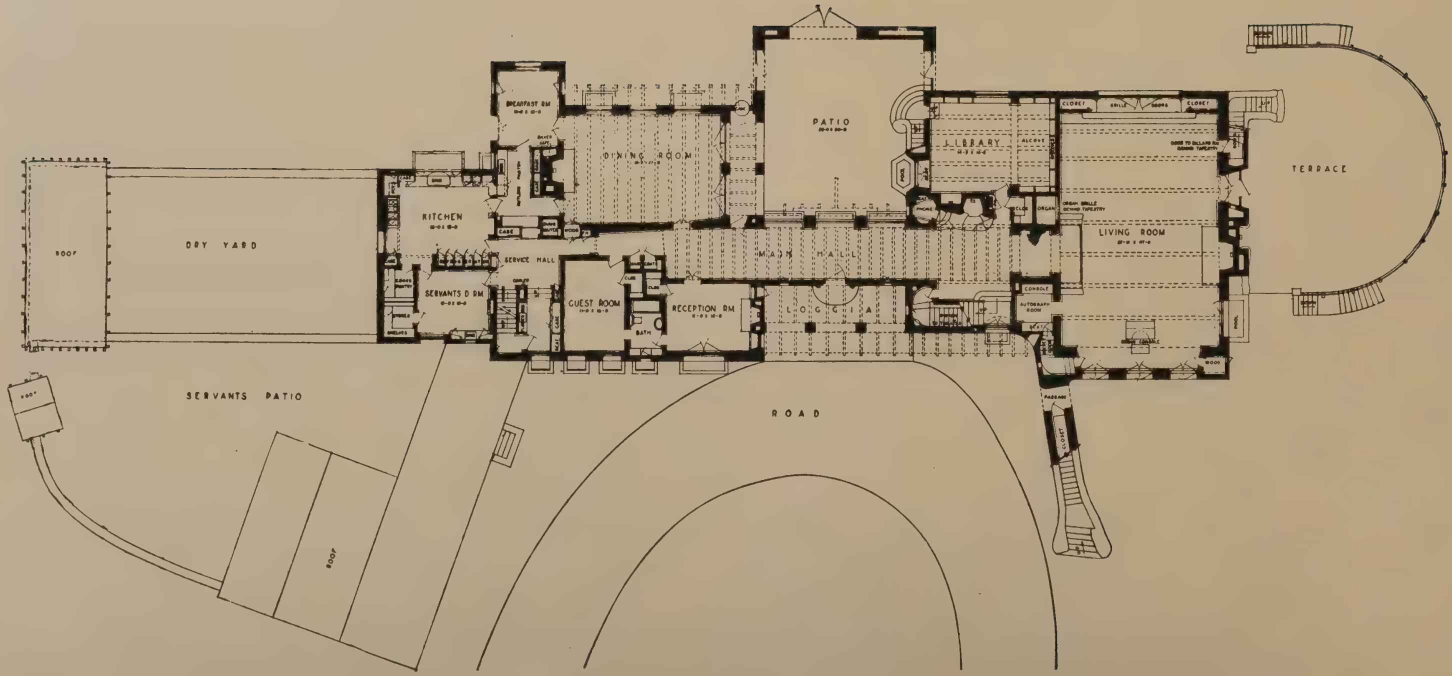
Front Elevation

SUMMIT HIGH SCHOOL, SUMMIT, NEW JERSEY
Guilbert & Betelle, Architects

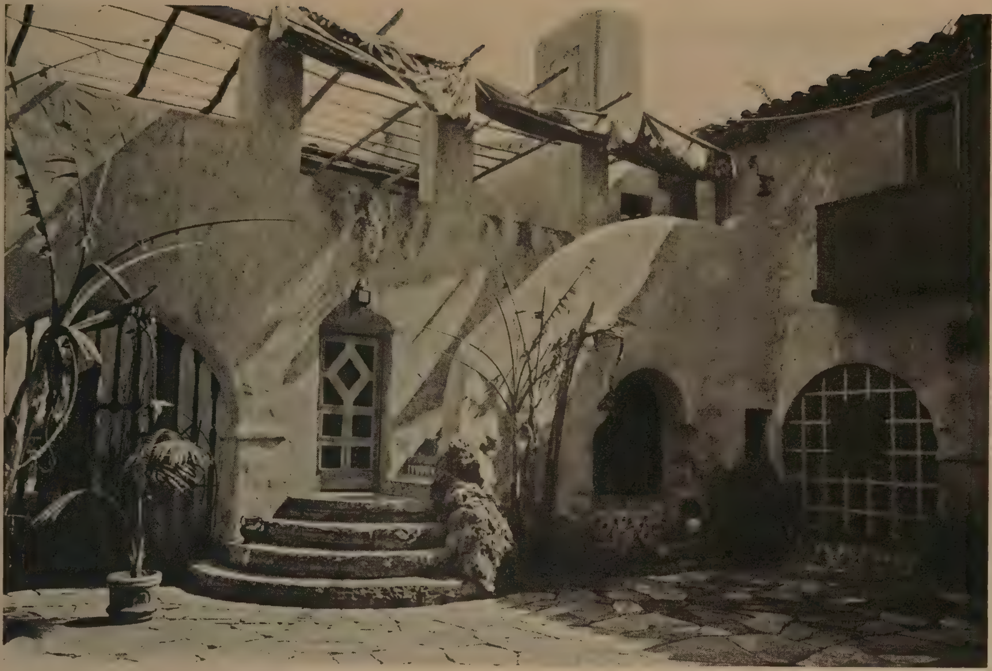


Main Façade

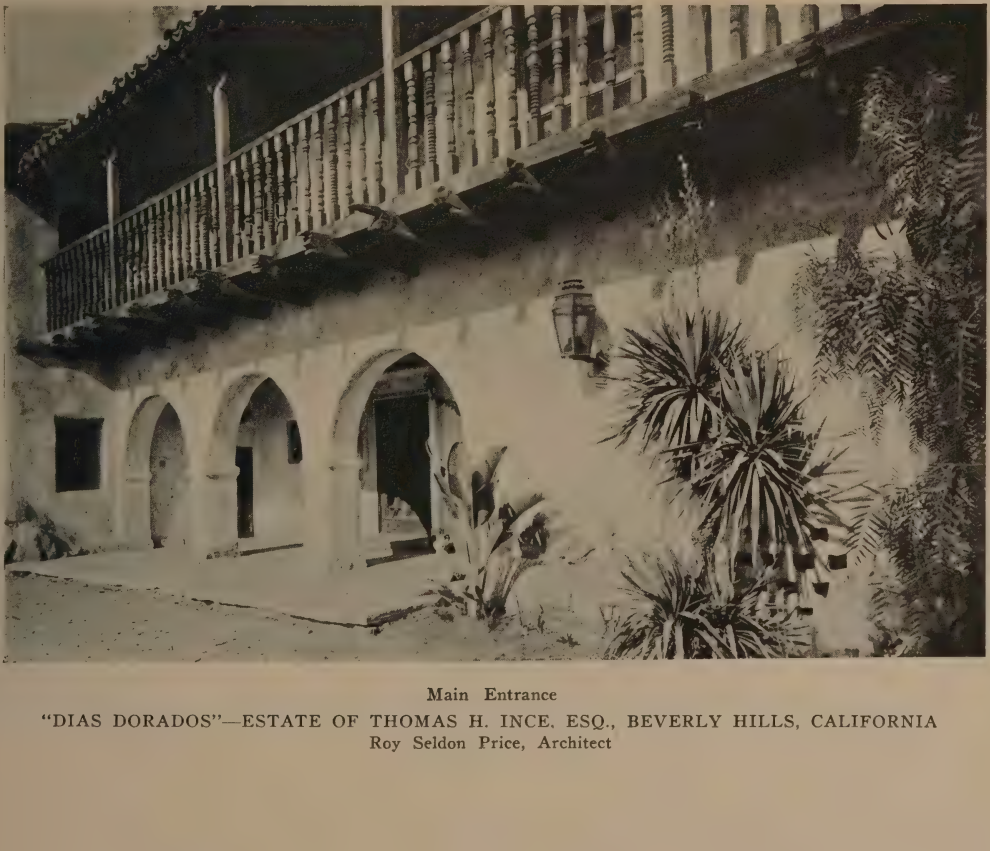
"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA
Roy Seldon Price, Architect



First Floor Plan
"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA
Roy Seldon Price, Architect



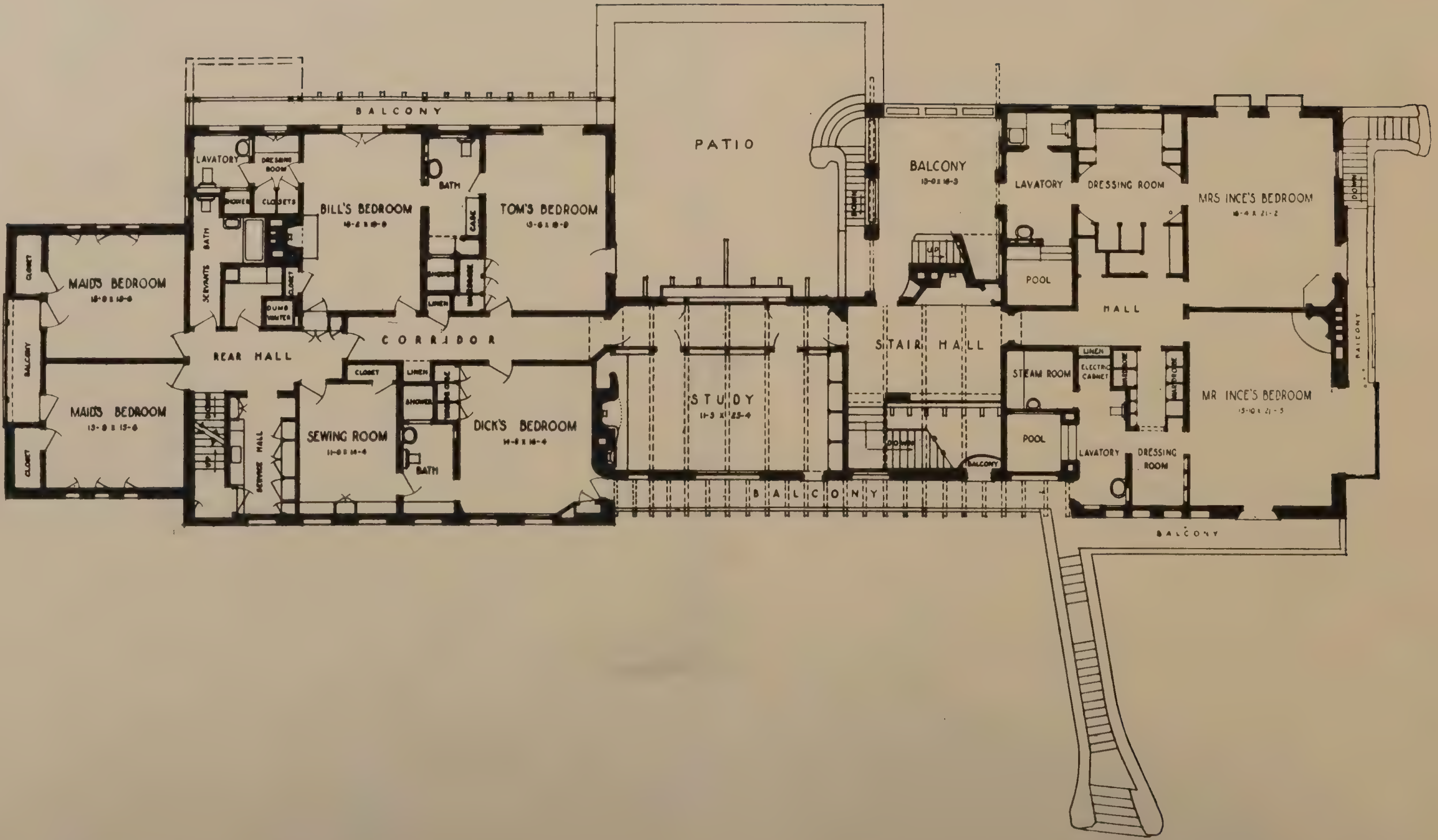
Section of Patio and Door to Library



Main Entrance

"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA

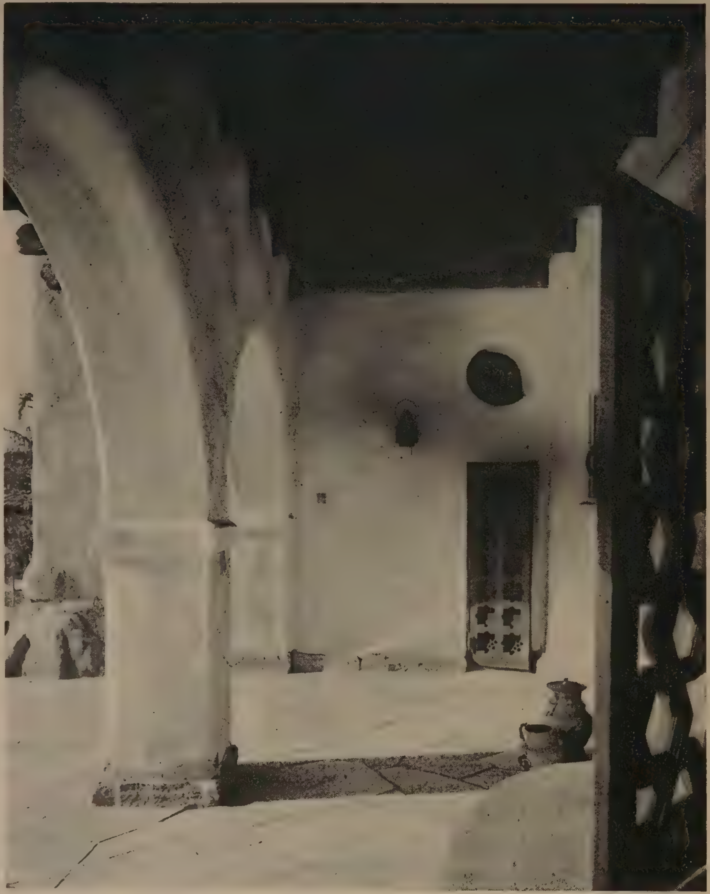
Roy Seldon Price, Architect



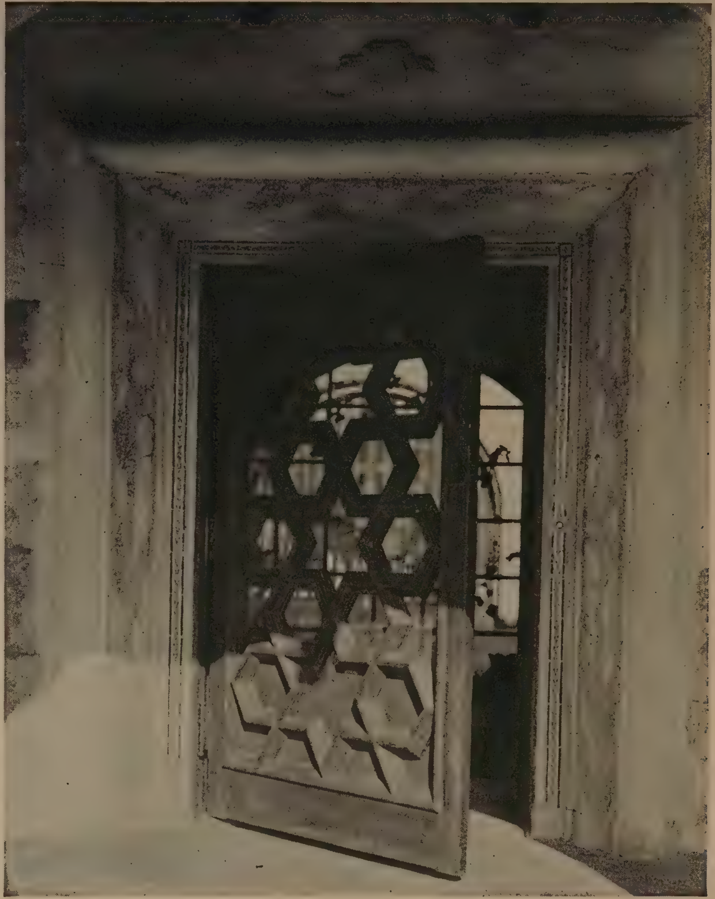
Second Floor Plan

"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA

Roy Seldon Price, Architect



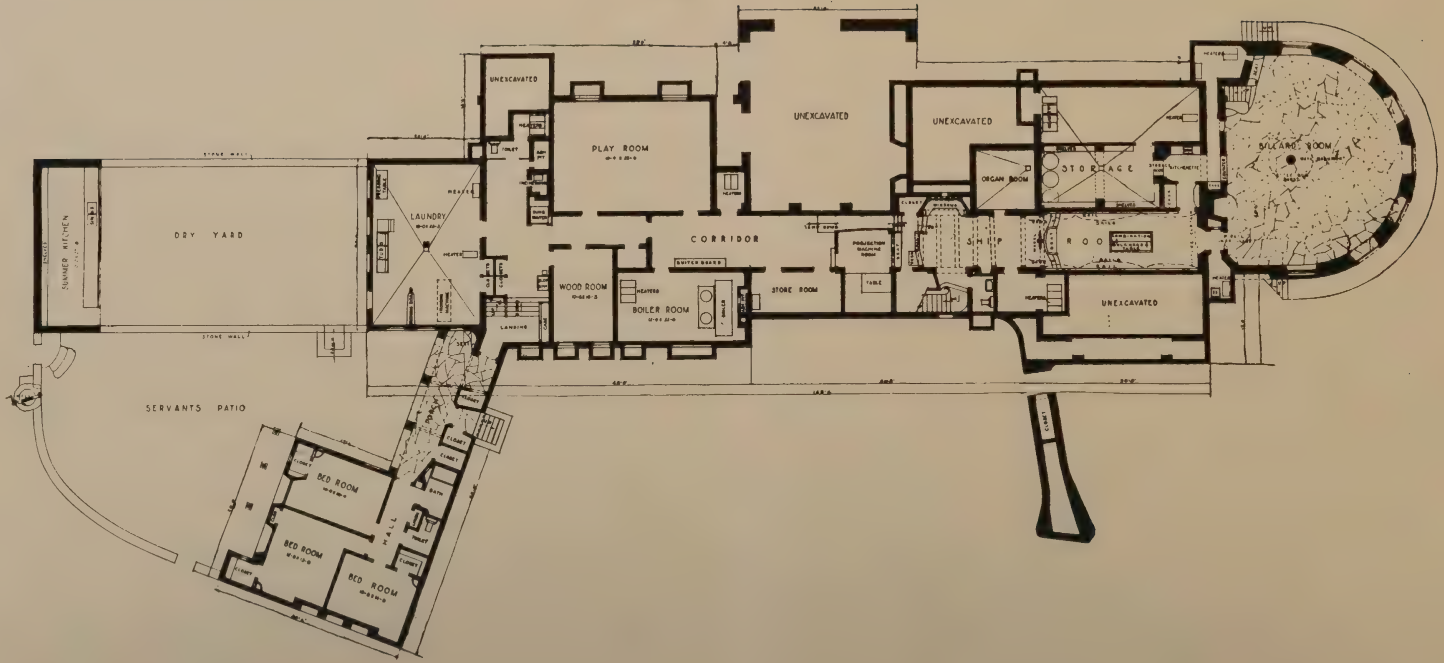
Main Entrance



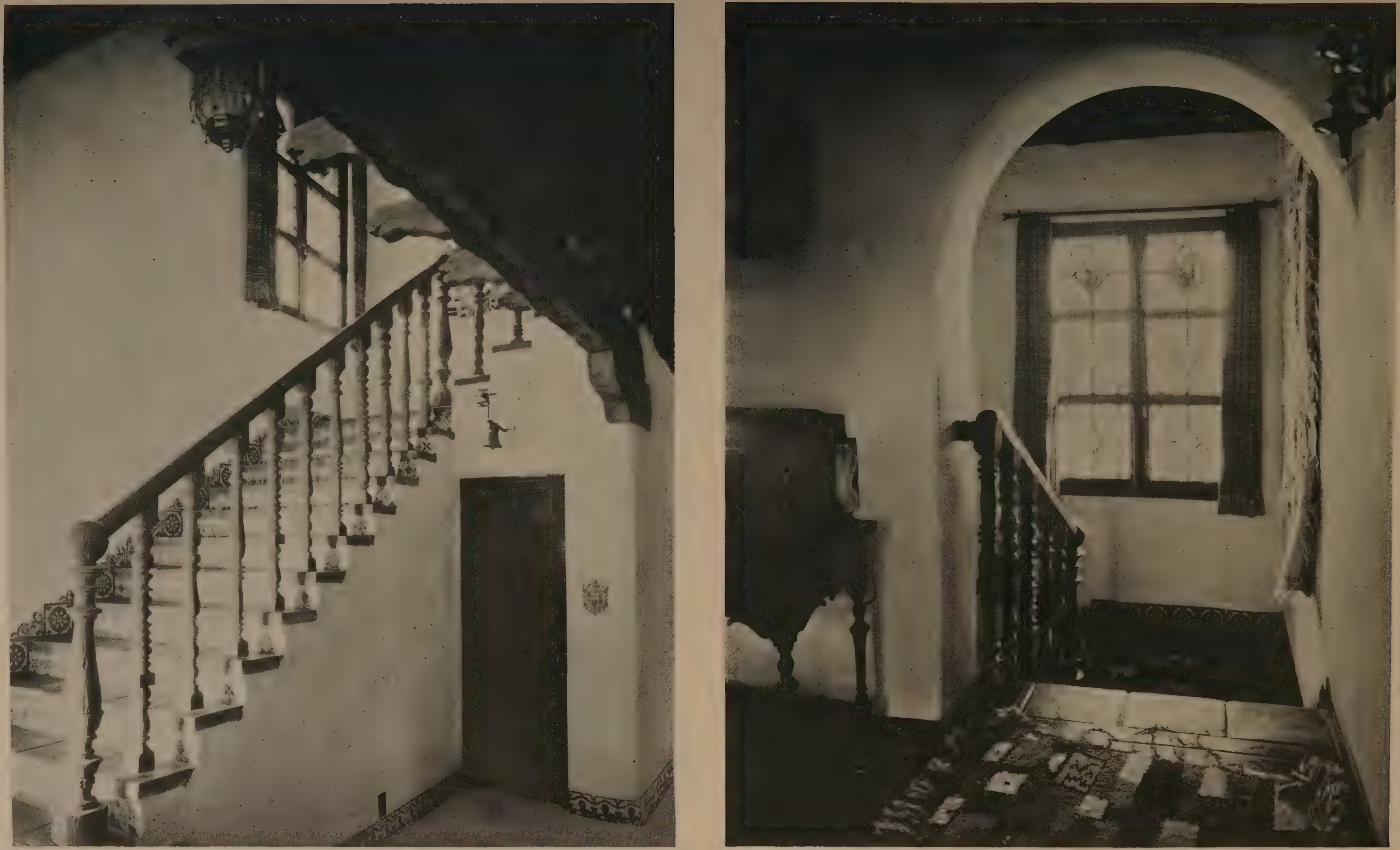
Main Doorway with Glimpse of Patio

"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA

Roy Seldon Price, Architect



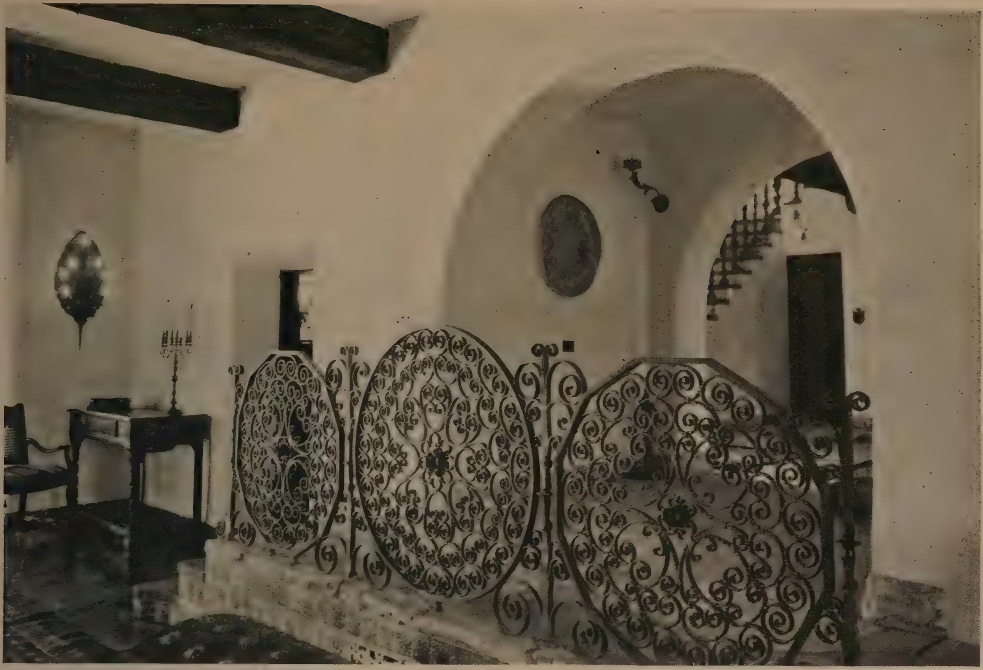
Basement Plan
"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA
Roy Seldon Price, Architect



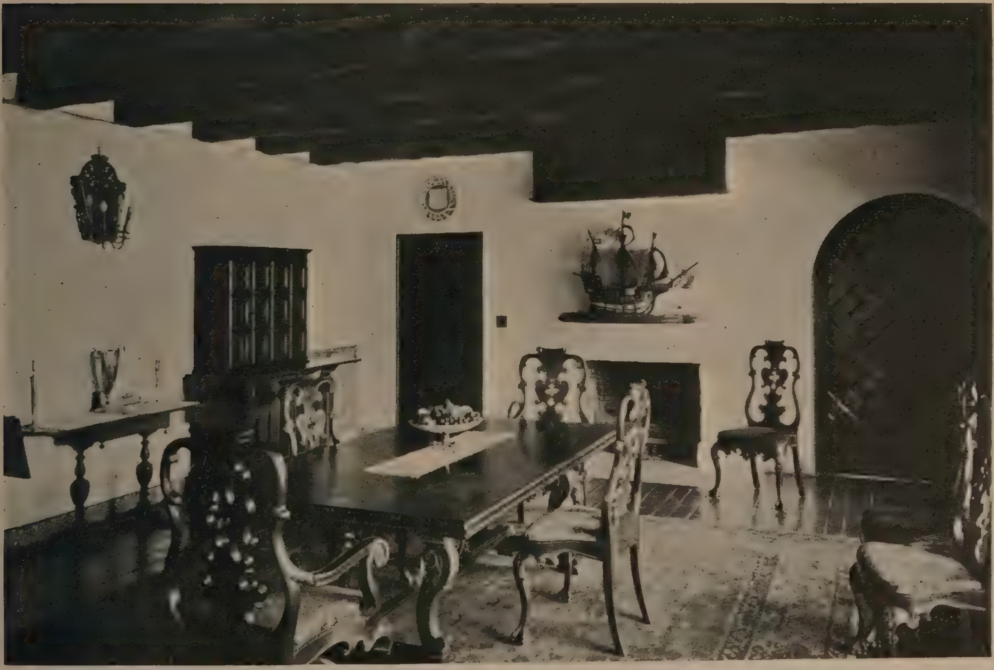
Main Stairway

Upper Hall

"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA
Roy Seldon Price, Architect



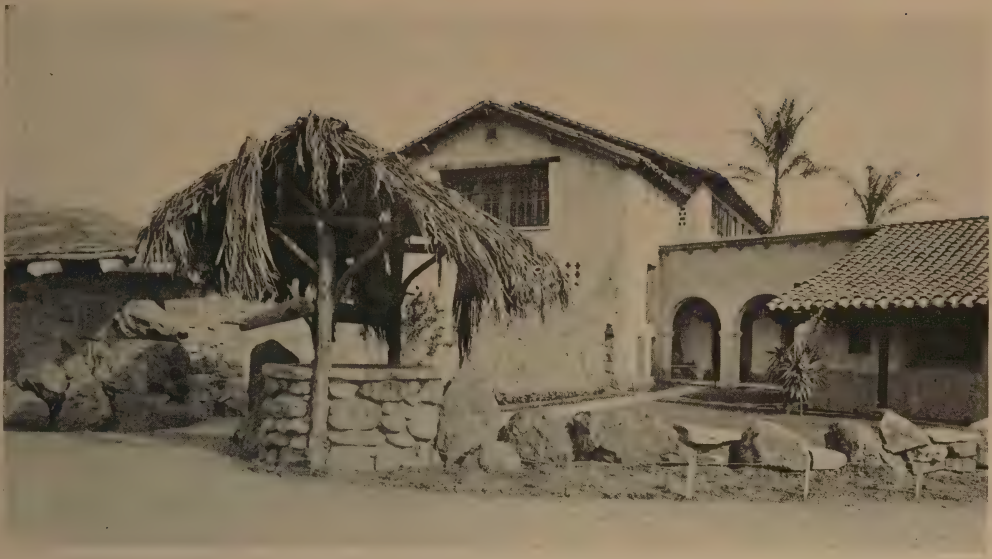
Entrance to Living Room



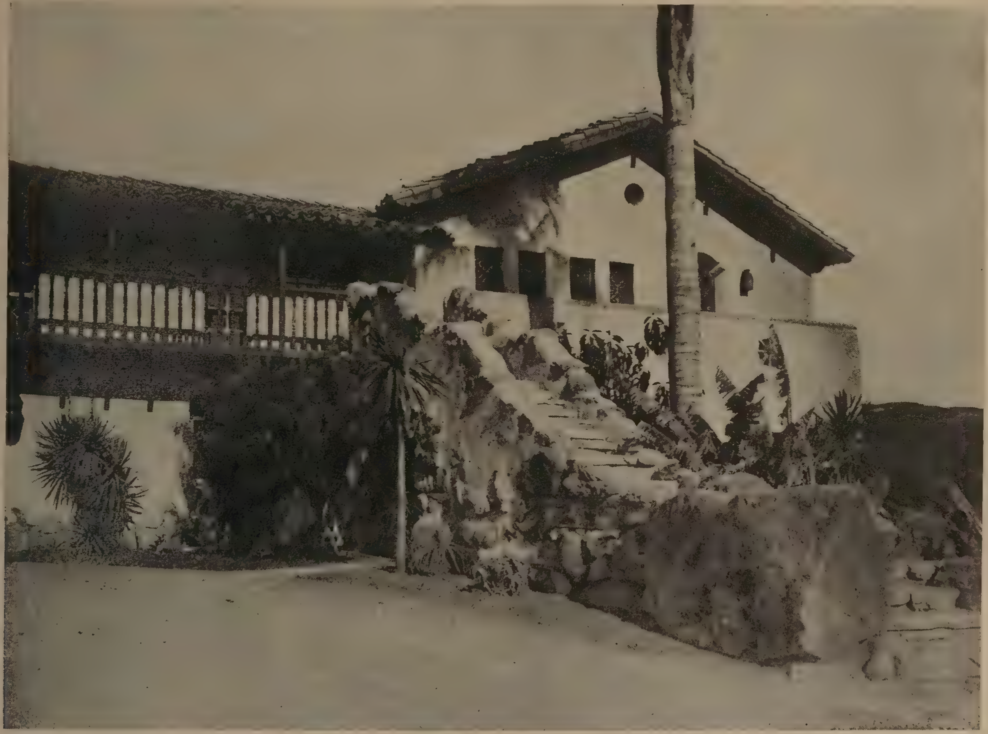
Dining Room

"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA

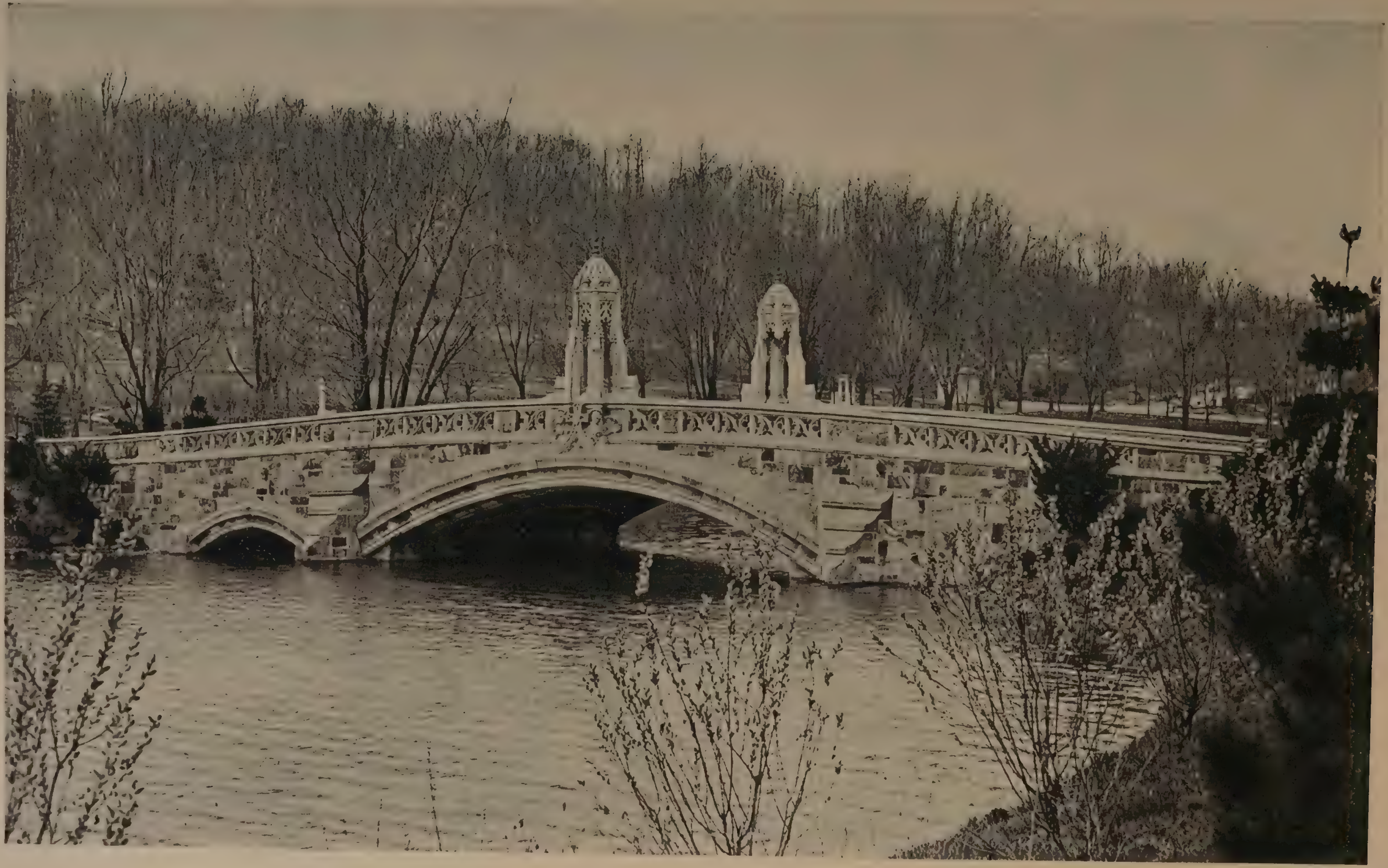
Roy Seldon Price, Architect



Old Well, Laundry Yard, and Service Entrance



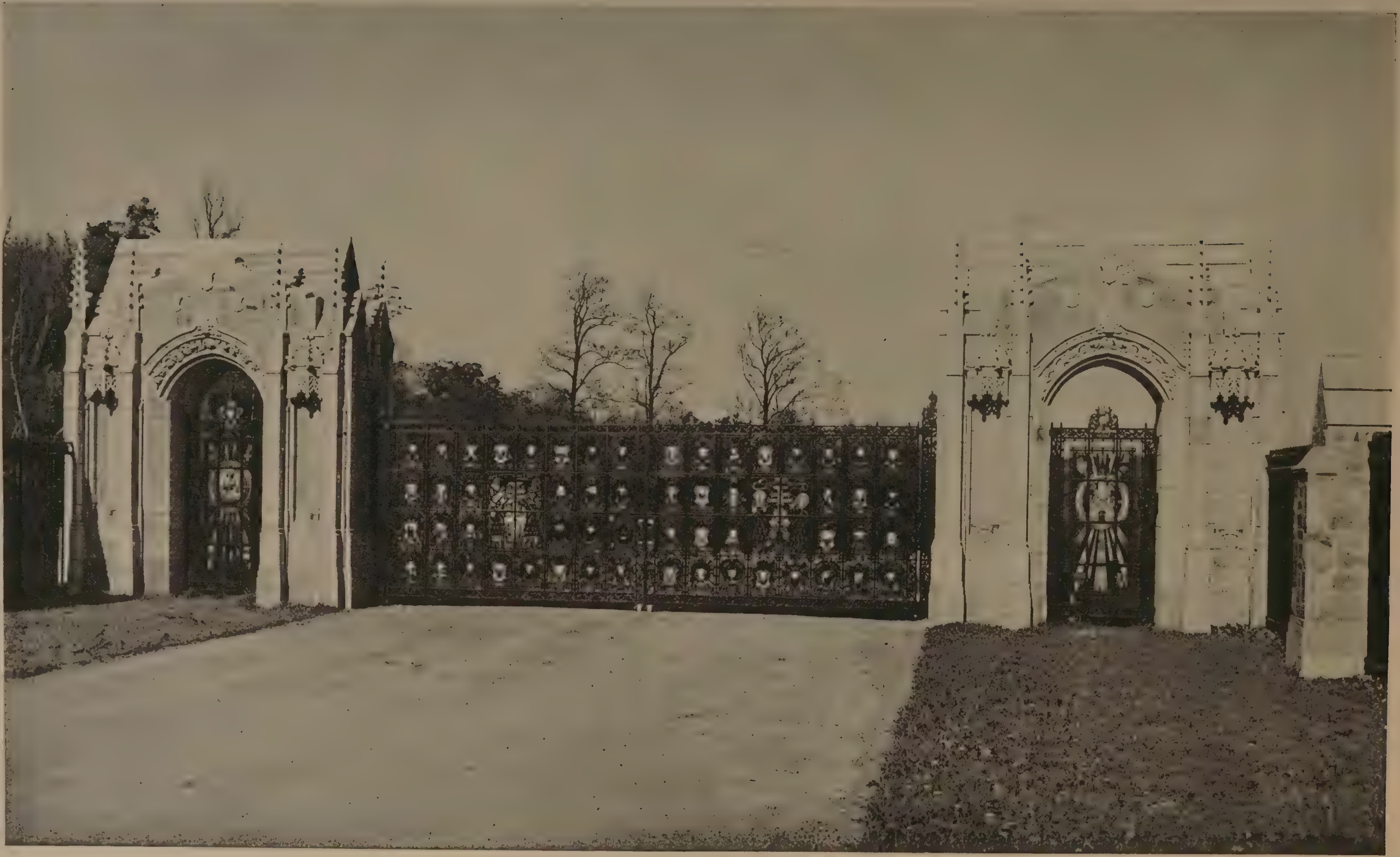
Rock Stair Leading to Wading Pool and Lake Plunge
"DIAS DORADOS"—ESTATE OF THOMAS H. INCE, ESQ., BEVERLY HILLS, CALIFORNIA
Roy Seldon Price, Architect



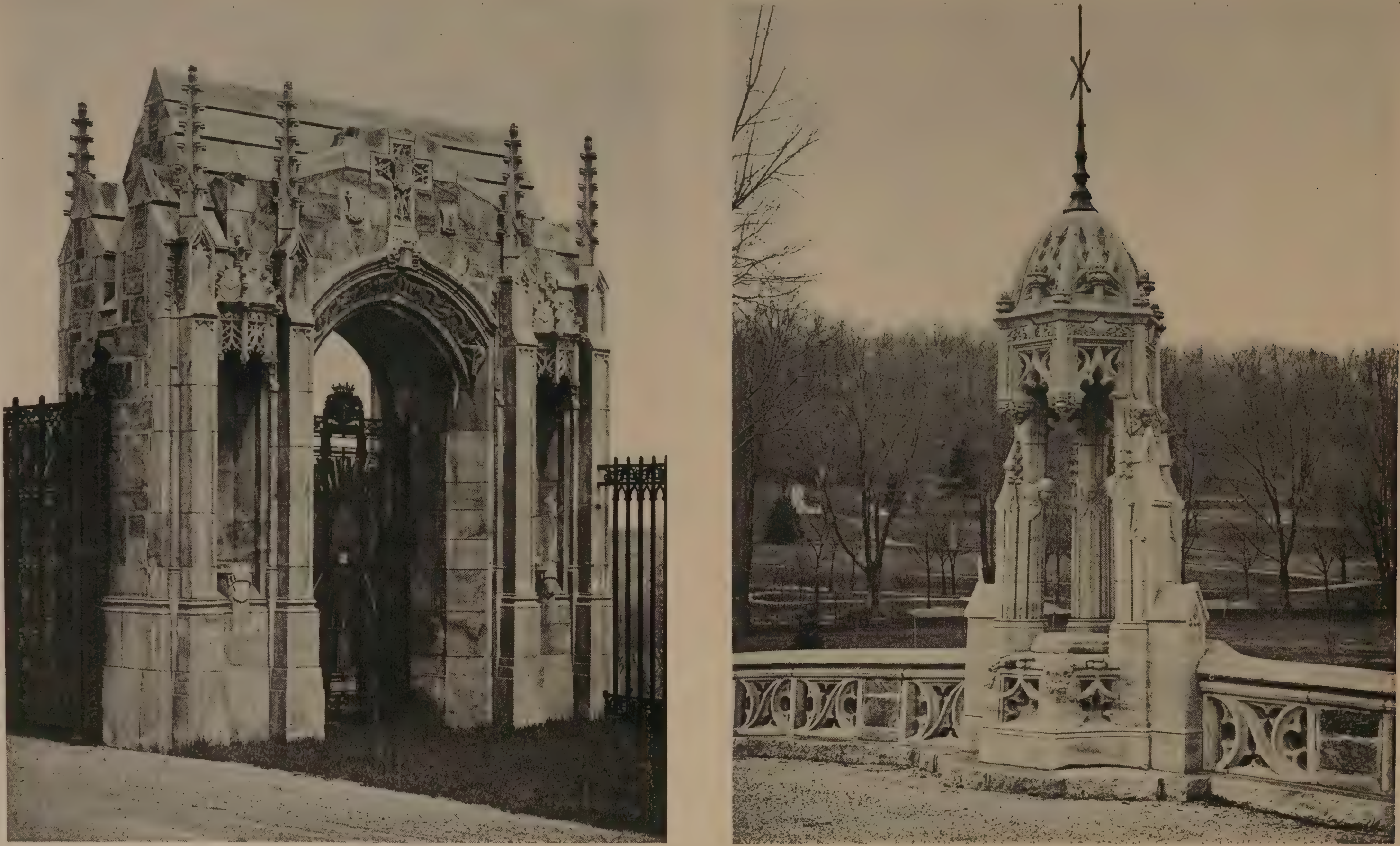
BRIDGE IN CEMETERY OF THE GATE OF HEAVEN, MOUNT PLEASANT, NEW YORK

Charles Wellford Leavitt, Engineer

William Berger, Architect



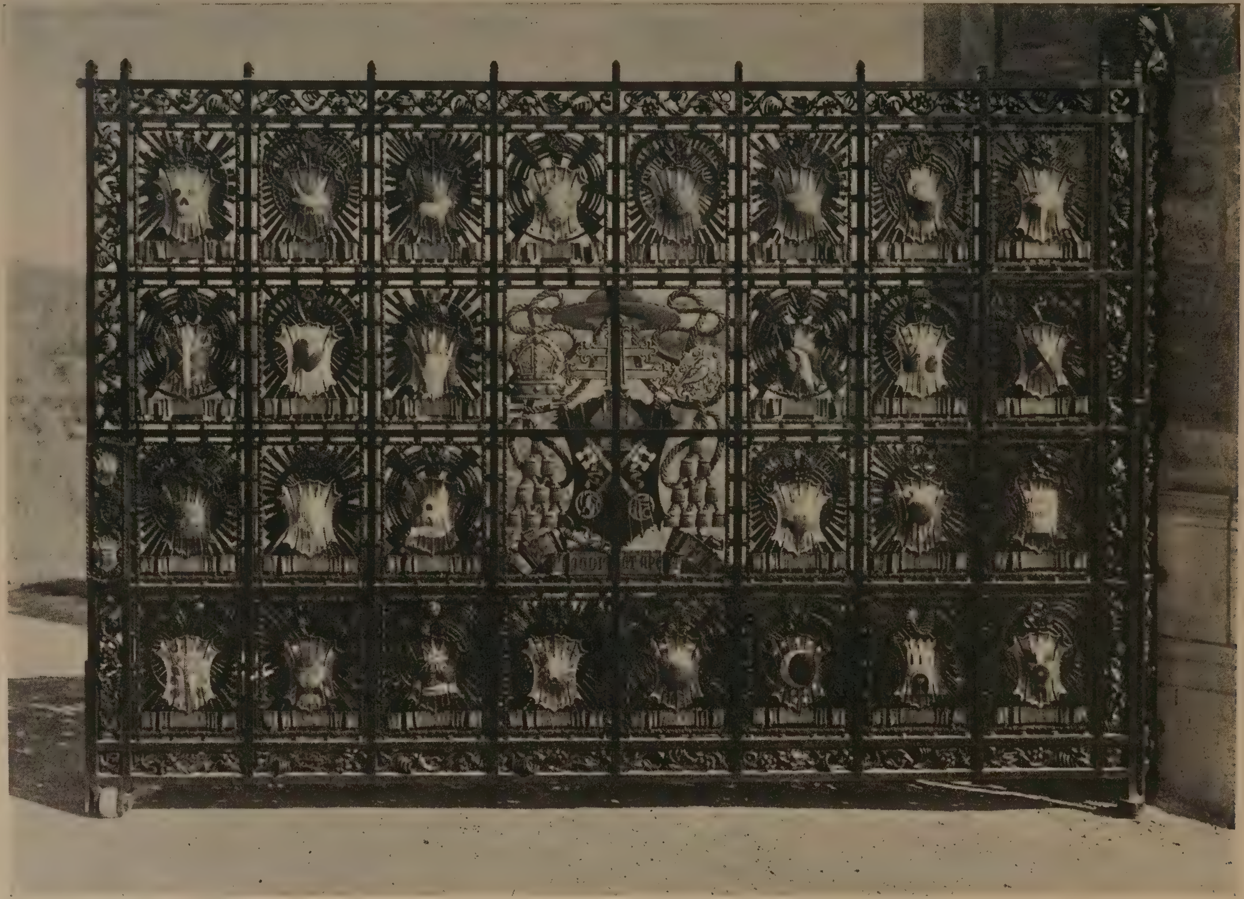
GATEWAY—CEMETERY OF THE GATE OF HEAVEN, MOUNT PLEASANT, NEW YORK
Charles Wellford Leavitt, Landscape Engineer
Bloodgood Tuttle, Architect



Pedestrian Gate
Bloodgood Tuttle, Architect

Shrine
William Berger, Architect

CEMETERY OF THE GATE OF HEAVEN, MOUNT PLEASANT, NEW YORK
Charles Wellford Leavitt, Landscape Engineer



Detail of Gate

CEMETERY OF THE GATE OF HEAVEN, MOUNT PLEASANT, NEW YORK
Charles Wellford Leavitt, Landscape Engineer
Bloodgood Tuttle, Architect

The LOW-RENTAL APARTMENT —AN ECONOMIC FALLACY—

By

Frank Chouteau Brown

PART III

LAST MONTH WE traced the progress and development of certain economic experiments in Low Rental Housing in New York City, in contrast with the housing experiment of the Metropolitan Life Insurance Company that was more fully reviewed the previous month. This article is designed to give further information on the present housing situation in a city the size of New York, so that a clearer comprehension may be gained of its relation to these newer types of buildings. Added to this is a detailed analysis of a housing experiment in the city of Boston.

In this connection, mention of some of the surveys that have been undertaken in several of our cities might be of interest, primarily one conducted in New York by the *Evening World* during the fall and early winter of 1923, by a special staff of housing investigators. In the course of this investigation individual reporters lived for several days at a time in certain of the worst congested districts, and so were able to name house after house in which they themselves had lived under indescribable conditions, and under which hundreds of thousands of the population of that city must today be existing. Their records show that this situation exists not alone in "down-town" New York, as is generally supposed. The lower east side, Cherry Hill, "Hell's Kitchen," Mulberry Street, and Harlem, along with many of the cross-town streets in upper New York, were included in this survey, and it was declared in the published *résumé* that more than half the population of the city lived under similar conditions. Other large American cities are in better positions only in so far as the proportion of tenements is necessarily limited by the size of the community.

Another incidental to the situation indicates how conditions must inevitably become even worse in New York, and elsewhere. It might be well to make this plain at once, as it reveals the inevitable trend of present-day events, as well as an actual reason for existing conditions. Perhaps the sooner we can place the blame the better. Who is to blame, then? Primarily, you and I, and the more we may have done in the past to help correct this distressing condition of affairs, the more are we now to blame for their continued and more wide-spread existence. More particularly if we are members of Municipal Leagues, Women's Clubs, Chambers of Commerce, and Social Welfare Societies, are we directly responsible for what is continuing along these congested lines. But how? Was it not these very organizations, with many others, that a dozen or so years ago investigated these same conditions, and after much expenditure of energy and time, got the Legislatures of State after State to pass various "Housing" and "Tenement" laws, establishing the most rigorous conditions to govern and prevent such situations in the future? Yes, that was *exactly* what was done, and with that accomplished, all these good people settled down with a sigh of content and an unwrinkled conscience, and waited for the millennium. But, up to now, it has not come. And why not?

For one—and perhaps the most important thing—because of these very laws. How did they actually work out? They laid down the conditions under which buildings for the use of these same suffering people were to be built. Quite right. And then what happened? Absolutely nothing—for these laws were so drastic in their requirements, so increased the cost to the builder, and allowed so little margin of return, that no building could be done upon any profitable basis. The owners of such property settled down, determined to make only the repairs absolutely necessary to keep their tenements occupied.

Next, of course, they found it desirable to jack up their rentals to recoup themselves for the expenses of these repairs, a move assisted by the fact that these new laws had at once begun to reduce or prevent any enlargement of the supply of low cost tenements, while the demand was steadily increasing. Today, we find all the old tenements of a dozen years ago still doing business, with the rentals about twice what they were then, *and no new tenements built;* while the population still forced to live in this class of housing has at least *doubled*. Hence the still worse conditions we find today!

The only relief has come through the removal of families from certain old sections of the city to more expensive types of residential property in newer portions of the municipality, resulting in the adaptation of these older properties to the uses of tenement-housing; and the law, which *should* have been applied to their alteration to their new use, has generally been avoided. Instead of attempting to alter these structures to meet the new requirements of tenement housing, they have in the guise of "rooming" or "lodging" houses, managed to accommodate three or four times as many tenants as they could possibly have housed as new-law tenements. Their owners have been saved the required and expensive reconstructions, and have secured for themselves a net income many times greater than otherwise possible.

But a new and ironically interesting factor has entered to complicate and make the situation still more unendurable. In some part, at least, these abandoned dwellings had been partially renovated to meet the needs of their previous better class of occupants. They had frequently been altered into smaller apartments, with fewer rooms than before. In doing this, the number of rooms allotted to sleeping purposes had been largely reduced and the kitchens and dining rooms proportionately increased (the kitchenette was, at this time, just coming into vogue; and the dining alcove or breakfast room had not yet risen upon the horizon).

When the poorly paid inherited these cast off dwelling habiliments they had to make shift to utilize them as they were. In so doing, they found that the kitchen, as such, was the most uncompromising part of their inherited problem. The class that had formerly used these dwellings had use for but few bedrooms, and more use for dining room and kitchen. A parlor and one or two bedrooms sufficed. Of these rooms, the new tenants found that all but the kitchen could be used for sleeping equally well as for their original purposes. But the kitchen, largely filled with stove, sink, wash tub, doors and shelves, left little room for beds, even of the most movable cot variety.

When the cast-off apartment came to be one of three rooms, a kitchen, combined living and dining room, and one sleeping room, a third of the whole space was of little use to the new occupants. Nevertheless, they were being charged rent upon a room basis, and for this purpose the kitchen was as much a room as any other, even if less available For this reason we find, in all our larger cities today, a more congested condition than previously prevailed in living conditions in the tenements. In older buildings, the toilets are in basements or yards, with sinks in halls and kitchens the only places available for washing by entire families and their numerous boarders. In the newer reverted sections more toilet facilities exist, but in the endeavor to fit a family into the confines of a three or four-room apartment, one of which is a kitchen, the crowding becomes even greater.

All this is merely by way of reminder. Other conditions, smallness of rooms, lack of windows, dirty and dark hallways, small light wells, remain as bad as of yore, and most of all remains the crowding of the block area with buildings. Every one of these blocks, now eighty to a hundred per cent overbuilt, could house more people than it now contains in new buildings, that need cover only about one-half the block area, leaving the rest for light and air, and providing good rooms, sanitary conditions, and much better fire protection than now exists.

But the stringent housing requirements exist to prevent the owner from even attempting to better conditions. From a selfish, practical point of view, it is far better for him to contend with the old buildings, than to attempt to replace them with new structures that must comply with all the expensive factors of the Tenement House Law. The sole outcome of the law, combined with the annual increase in building costs, which have more than doubled during the last ten years, has been to hinder or prevent the construction of new and better tenements. It has actually so worked as to even bring about the preservation and continuance of the identical buildings that were the cause of the original housing legislation. Today matters are actually many times worse than they were then, not only in individual examples, but throughout the entire class of tenement dwellers compelled to live under these or similar conditions.

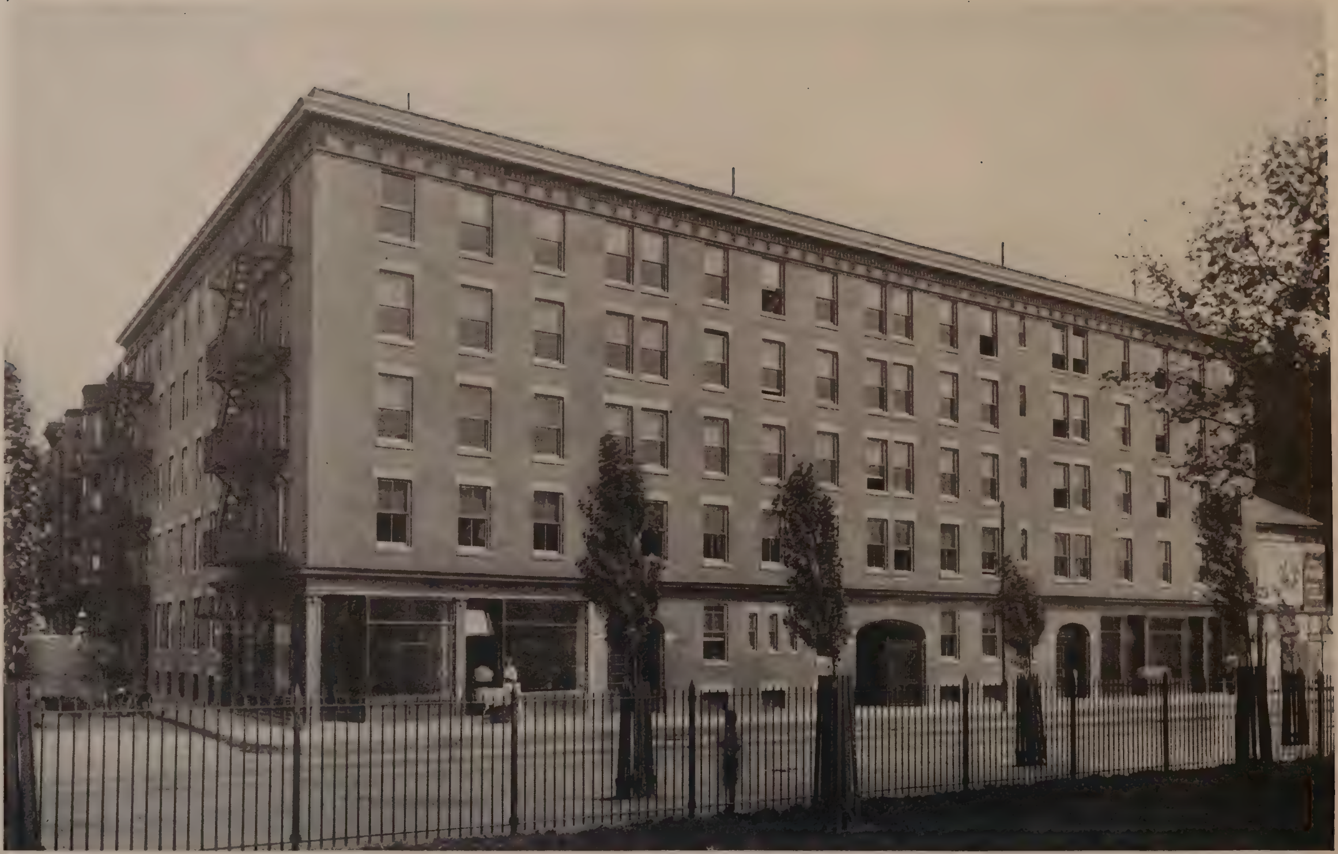
The old buildings are now in worse repair than ever, and more crowded. Others previously taken over for varied purposes have been later conscripted to help out. They in turn were less well adapted to meet the requirements of housing, and again no attempt has been made to build them over or to adapt them to their new use.

No permanent improvement can be expected until the same forces that united to obtain the legislation originally are willing to help modify these laws sufficiently to again place the matter of possible improvements in this class of realty in a more favorable light to the indivdual owner or investor, or until the City, State or national Government enters the field, in some one of the various ways that have proved effective in European countries.

Meanwhile we must recognize that a considerable amount of the damage caused by this class of legislation can never now be repaired The fact that building costs have more than doubled during the period since these laws were passed, can only mean that the new building that was stifled by this legislation, which otherwise might have been undertaken on a small margin of profit, has now become forever impossible for individual investors on any feasible financial basis whatever.

Last month's article contained two incidental points that should perhaps again be touched upon before taking up the detailed description of the building to which we give principal consideration this month. First, the fact was noted that the matter of fireproof construction should be given more consideration. This point should be stressed. In the case of the two buildings by Mr. Emerson illustrated last month, the structure was entirely fireproof; the same thing is true of the building we are illustrating in this article. The Metropolitan Life Buildings are not so built, wooden floor joists and studs being freely used. Quite aside from the factor of fire loss, this means greater deterioration, and consequent increased cost for upkeep.

The other matter was to call to mind that the plan of the Metropolitan Life Buildings for a 6% net return, with an additional 3% to refund the original investment, is almost precisely the basis upon which the principal "Open Stair" buildings have been constructed and maintained in New York, over the last ten years. The costs and rentals of these may be compared with the following data concerning the Charlesbank Homes of Boston. Care has been taken to secure exact and definite data of the individual experiment made in Boston, even though conditions have since so changed that, from an economic point of view, the financial status under which the venture was initiated can no longer apply. Nevertheless, as a practical attempt to solve the problem of providing low-rental apartments on a basis to make the enterprise independent of further philanthropic support, it has achieved an extent of actual accomplishment that equals, if it does not better, other existing housing schemes.



The Architectural Record July, 1924

Figure 15
"CHARLESBANK HOMES," BOSTON, MASSACHUSETTS

More than twelve years ago, Mr. Edwin Ginn, the publisher, recognizing the difficulty of providing wholesome and sanitary houses for working people at a moderate cost, undertook to construct a building for that purpose. He set apart a fund sufficient to pay for a plot of land and to build upon the site a structure of maximum capacity and practical economy within the limits of area and height established by himself and his advisors.

A lot of about 13,550 square feet area was obtained in one of the most congested sections of Boston, facing on the lower basin of the Charles River, a location that had but recently been improved by the development of a parkway and an embankment along both sides of the river. The plot of ground was situated a few hundred yards from a fine open air playground and gymnasium; the first municipal institution of the kind to be established in this country.

The land was on the corner of Charles and Poplar Streets, and was bounded at the rear by another narrower street, Porcelain Place, so that the site was open on three sides. As no elevators were to be included in the plan, the height was limited to a maximum of five stories above the ground. It was built with a flat tiled roof, kept as free from encumbrances as possible so as to be available for the use of the occupants in hot weather.

This structure is known as the "Charlesbank Homes," Fig. 15, and is managed by The Charlesbank Homes Corporation, under the direction of a group of trustees. The Corporation is not allowed to divide among its members the income or profits derived from the building, which are to be applied to the purchase of land and the erection of other buildings of like character.

As originally planned, the building was divided into 103 apartments, arranged around two courtyards, with five shops along the principal street frontage, for the sake of the income to be derived from them (Fig. 16). The apartments are divided into suites of two, three and four rooms, the building having thirteen two-room, eighty-one three-room, and nine four-room suites, arranged around six central staircases and halls, all reached from the courtyard, three of them being also approached by means of entrances opening upon the street frontages.

The majority of the suites have cross ventilation, and the two- and three-room suites have a toilet and shower. Some of the three-room, and all the four-room suites, have a full bathroom, (Figs. 16 and 17). In addition there are, on the first floor, a group of shower baths and tubs for the use of the tenants. All suites have dumbwaiter service, telephone connections with the entrances, water, heat and janitor service. The gas is paid for by the tenants, and the suites are provided with gas stoves. The hallways are lighted by electricity.

Not only was the building planned for economy of space, but also for economy of maintenance. The staircases are all of iron, with iron railings; floors are cement, and walls are hard, painted plaster. The building is of non-burning construction throughout, brick and concrete. The cellar has storage and steam drying facilities. The heating plant is oil-burning. The relatively small size of the courtyards has made it necessary to pave them with concrete. The larger central courtyard is 62 feet long by 38 feet wide, and the smaller court (located at the southern end, to obtain cross draft for the apartments at the inner end of the lot) is 38 feet by 21. They are connected by wide passageways on the first floor; both courts open on the narrower rear street, and the larger on the Charles bank in front, through a spacious archway, (Fig. 16).

It remains but to state that the building was completed in 1912, and to give the present scale of rentals. The prices charged are based partly upon location, whether on the front, toward the river, or on the courts or narrower street at the rear. The two-room apartments on the front rent for $6.00 a week, those on the rear for $4.00 a week. The rent of the three-room suites is partly affected by the location, and also by the fact that some have more plumbing than others. The front ones vary from $7.25 to $8.00, the rear from $6.50 to $7.25. The four-

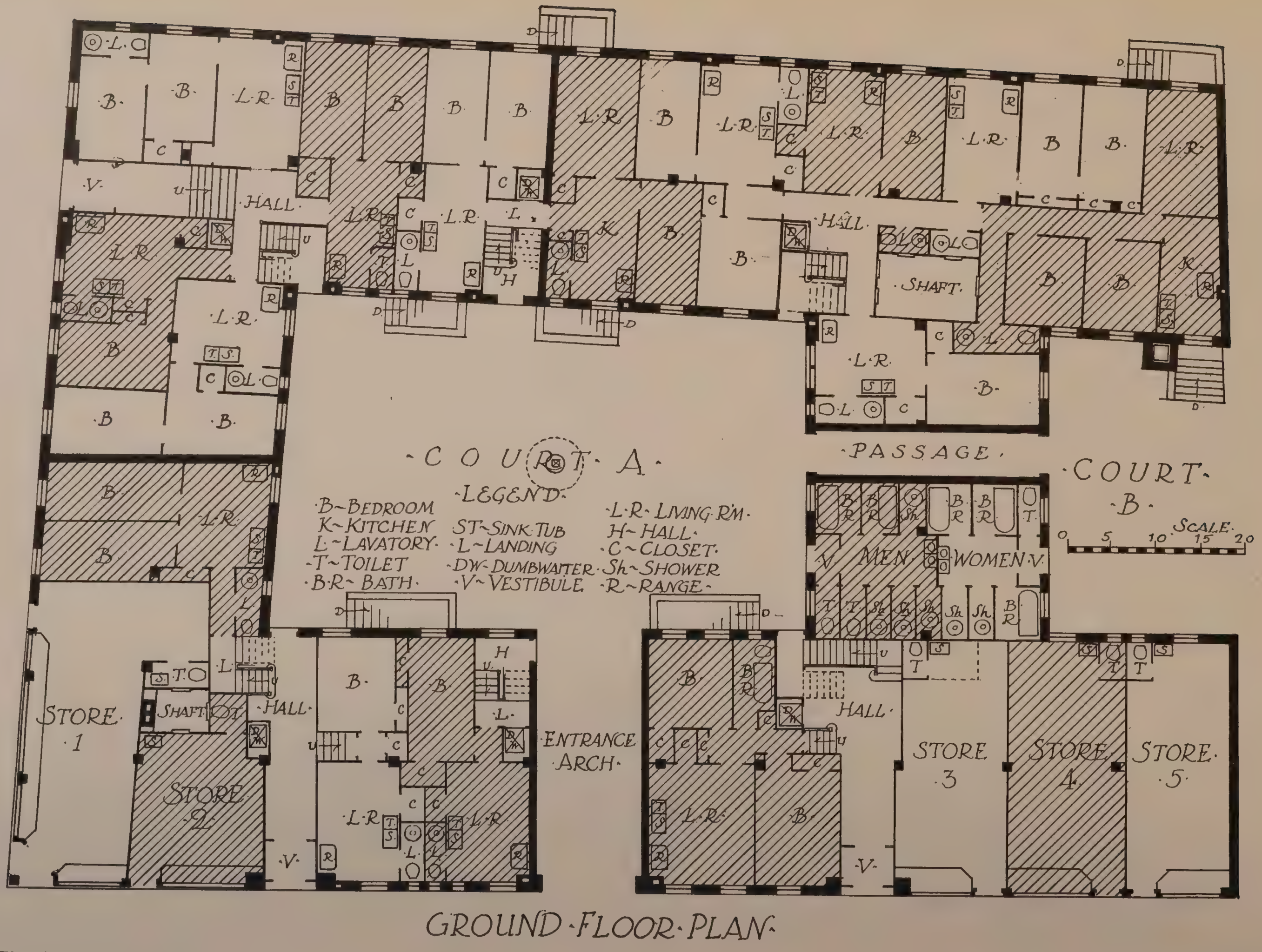


Figure 16

"CHARLESBANK HOMES," BOSTON, MASSACHUSETTS

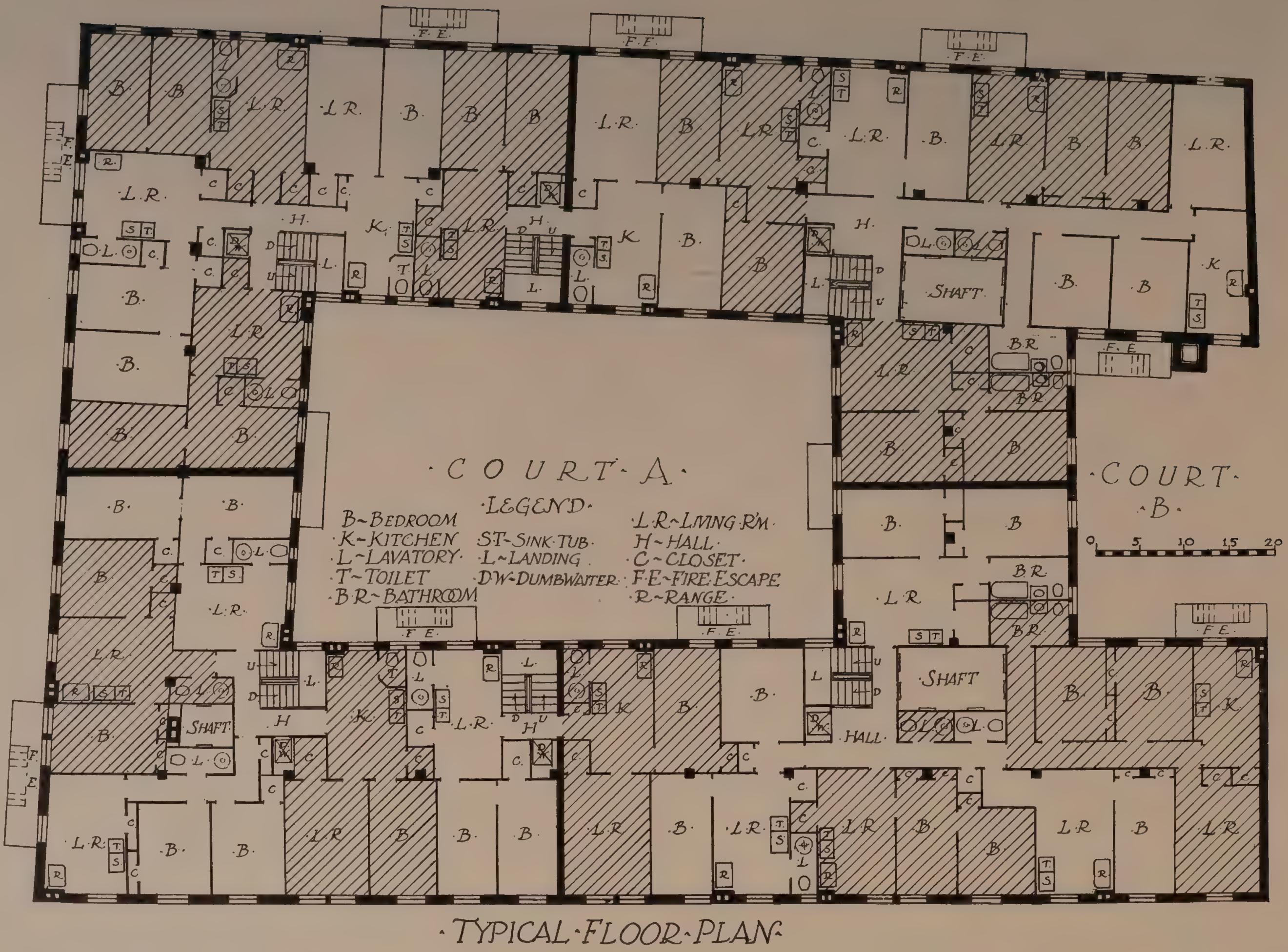


Figure 17
"CHARLESBANK HOMES," BOSTON, MASSACHUSETTS

room suites rent on the front for $8.50; in the rear for $7.75. This is at the rate of $33.50 to $36.75 a month, or $8.35 to $9.20 a room for the four-room suites; $28.20 to $34.70, or $9.40 to $11.35 a room for the three-room suites, and $17.35 to $26.00, or $8.67 and $13.00 a room for the two-room suites.

On this basis the property at the present time nets only about 3% profit, and it of course has no interest charges to pay, as it was given into the hands of the trustees clear of debt by the donor. The original investment stood between $295,000.00 and $300,000.00, and the construction was done at a time when building prices were at about their lowest.

At the present time there is a long waiting list, and all applicants are investigated carefully before being accepted. Only those with a reputation for good housekeeping and good character are admitted. Of course, the small size of the apartment makes the tenancy of large families impossible, but there are a number of tenants with two children, and one with three, the latter all born in the building.

The fact that the building stands in a neighborhood now largely Jewish, accounts for the greater part of the tenants being of that faith. Other nationalities are Italian, Irish, Swedish, Scotch, English and American. It is considered that 60 per cent. of Jewish occupants would be the desirable maximum.

In the beginning the suites were not at all popular with those native to this district. Their bareness and their extremely clean and sanitary aspect were perhaps not so inviting as the older, more atmospheric quarters then most populous in that neighborhood. The feeling was intensified, perhaps, by the fact that the interior walls were cold and gray in tone, suggesting too much the hospital. It was afterwards found advisable to ameliorate this condition by using warmer colors on walls and ceilings, and from these first years on, the building has easily been kept full at all times.

At the beginning, a scale of rentals had been determined that ran from $1.25 to $1.75 a room, or from $10.75 to $15.20 a month for the two-room; from $15.25 to $22.75 for the three-room, and from $21.20 to $30.30 for the four-room apartment. Since then, however, increased costs of fuel, taxes, and labor have made necessary an increase in rentals. As will be seen, the increases have been made mostly in the lower rental suites of two rooms, being about 70% advance on the lowest priced, smallest suites, to almost 85% on the lowest priced three-room suites and dropping to 50% advance on the higher priced three-room and lower rental four-room apartments, while the highest priced four-room suites were advanced only about 10%. The average increase is about 50%, and the variation in percentages came about from an endeavor to equalize the original rentals and still keep the totals down as low as was possible, in order that the occupants would still remain in the class of tenantry desired.

Now an examination of the plan may be made with advantage, in order that we may discover another means by which the economy of this particular venture was greatly aided. The building covers about 10,509 of the entire area of 13,529 square feet, leaving 3,020 feet in the two courts, or about 22% of the total area.

A look at the typical floor plan (Fig. 17), will show that the structural supports of the reinforced concrete floors are the walls and a series of piers. All the intervening partitions, except the four cross fire walls, are of plaster on wire lath, both sides. This is so much an economy of floor area that the saving of the 1,985 to 2,000 running feet is sufficient to give six or seven more rooms to the floor, or eleven additional three-room apartments to the entire building, thus increasing the income by an average of $340.00 to $350.00 per month.

Attention should also be directed to the fact that great pains have been taken to provide cross draft for as many suites as possible, a matter that was given some consideration last month. In the case of several suites, it is apparent that considerable passage space has been taken in order to make this possible. It is problematical as to what can best serve the life and use of the building, a rigid economy of arrangement that might disregard this consideration, or a less strict economy in construction that would provide this additional comfort for the tenants.

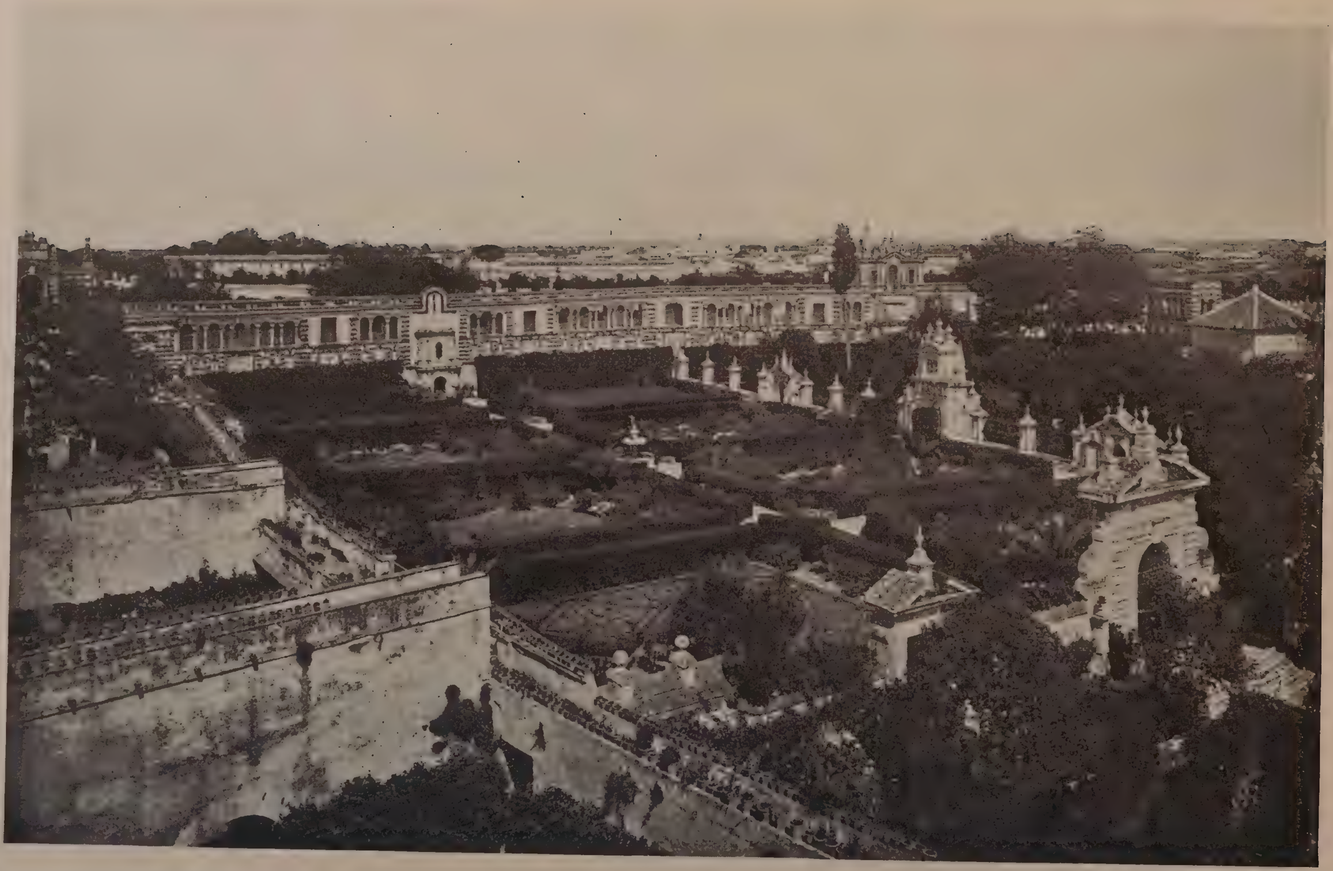
The other debatable point is in regard to how many apartments can be reached from one staircase without too much waste of passageway, and too great inconvenience of arrangement. In the typical floor plan, (Fig. 17), it appears that of the six staircases, two reach only two apartments on a floor, two connect with four apartments on each floor, and the other two reach five apartments. It is in these latter cases that we will find the plan separates the toilet in some cases from the private hall; or that it becomes necessary to go through one bedroom in order to reach another, neither arrangement desirable, but the latter not so objectionable as it at first seems when adequate resident control is maintained over the occupants, as is true in this case. Such an arrangement is often an actual convenience, when the entire occupants of the suite are a couple with small children.

In the first of these articles particular examination was made of the newest and largest experiment in obtaining low rental housing in New York City, and it was found that with all things considered, the whole experiment was finally made possible only by an economically unsound, tax exemption law operating as a bonus, a combination of circumstances not always available for such purposes.

In contrast to that venture, we have here had an opportunity to even more carefully examine a similar operation that has been in use since 1912, fully twelve years, also on an unusual financial basis. All the usual building charges were saved in this instance. The property runs with no mortgage interest overhead, it is managed by trustees who draw no salary, and yet on the scale of rentals given, it has been unable to make a net profit of more than 3½% in any one year, and for a large proportion of its operation there has actually been no profit at the end of the year. This was true of the earlier years of its existence, either from the fact that rentals were first established at too low a rate or from vacancies occurring too frequently, especially during the summer season; also from necessary expenses incurred in perfecting the heating and drainage systems, or other unexpected repairs and replacements, incurred despite the fact that the building was originally made as permanent and indestructible as possible.

It is true that this building is non-combustible in type of construction. But it is also true that, if it were to be built under present-day conditions, it would be at a cost of more than double the original. And this, on any equable basis of return, would therefore necessarily almost double the present scale of rentals. And so again we find we have been turned by the inevitability of the facts involved into another blind alley, and have once again found low rental housing to be an elusive myth, an economic fallacy.

BURTON-ON-THE-WATER, GLOUCESTERSHIRE



The Architectural Record

Photograph by Lacoste

General view, showing the wall promenades
THE ALCAZAR GARDENS, SEVILLE

ANDALUSIAN GARDENS AND PATIOS

By

Mildred Stapley and Arthur Byne

Photographs and Drawings made expressly by the Authors

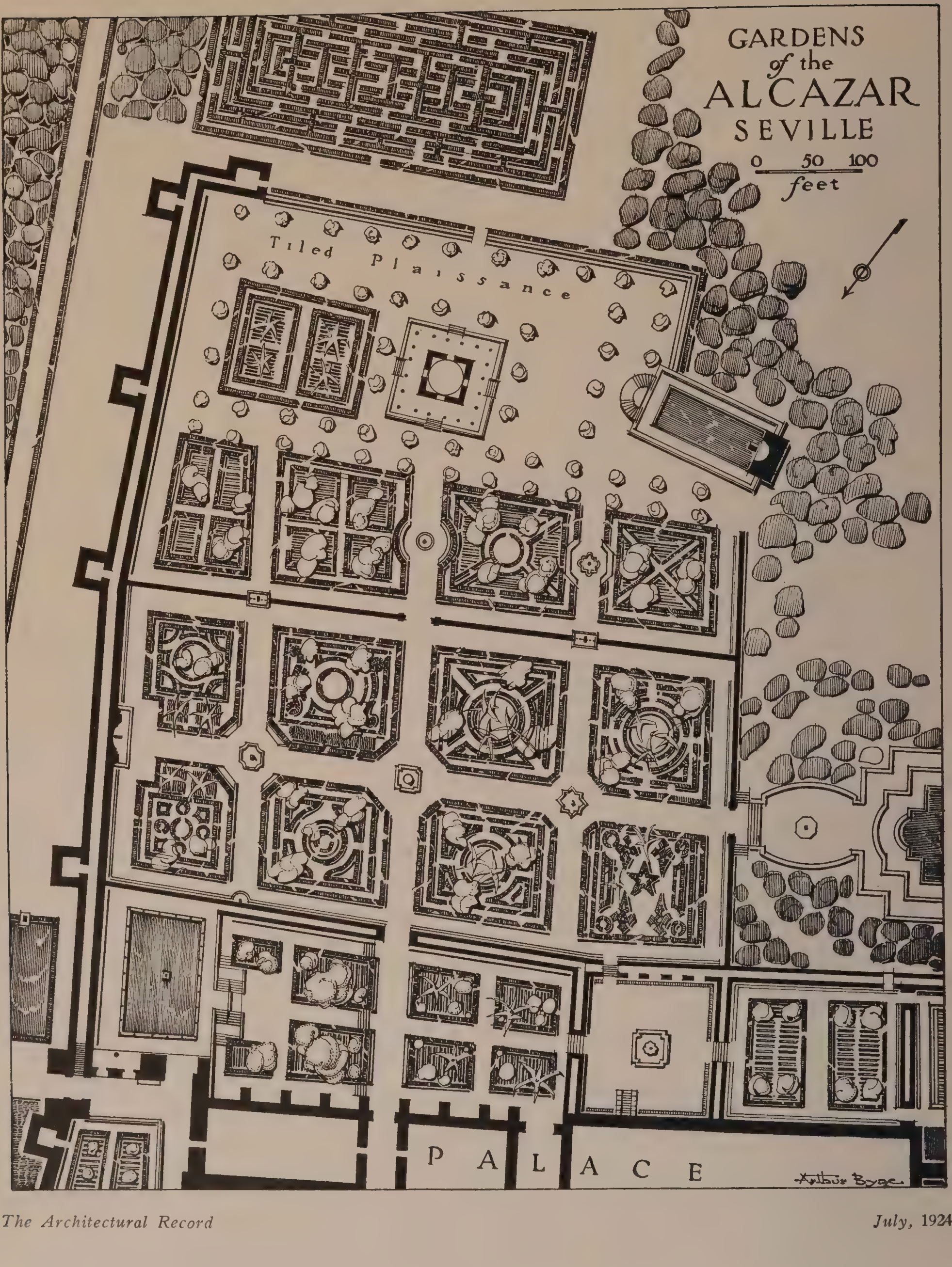
PART VIII. - *The Alcazar Gardens, Seville*

SEVILLE offers, in the park of its *Alcazar,* the most complete early Spanish example of the level type. In addition the city contains the gardens of the Alba and Medinaceli palaces and the modern *Parque de Maria Luisa;* while in the way of very small gardens and patios there are any number that will amply reward the searcher who is bold enough to bribe his way into them.

From classic times the site of the Alcazar has been important in the history of Seville. After the Romans, the Moors built their citadel (Arab, *al-Kasr*) here; this was towards the end of the twelfth century, Seville's most prosperous Moorish period. Of this building nothing remains. Its precincts were vast, having extended down to the Guadalquivir and included the ground now occupied by the *Fabrica de Tabacos,* the *Palacio Santelmo,* and the *Torre del Oro.* For the rebuilding of the destroyed Alcazar, Peter the Cruel (1350-69) deserves the credit. As his architects and craftsmen were Moors and as the palace is proof that they were following their own oriental tradition in architecture, we may safely presume that the garden they made for him was also after their own manner.

How much of their layout was preserved by Christian monarchs can never be more than a matter of conjecture. Charles V meddled with both palace and garden; considering practically all the tiles seen in the latter date from the sixteenth century and onwards, one would not be far wrong in assuming that Peter the Cruel's garden was without them and thus truer to precedent. Within the palace, however, and dating from his time are fine early examples—cuerda secas, cuencas, and even mosaics—which those who are interested in old tiles should not fail to examine. The garden was again remodeled but only in part by Philip IV and Philip V. The latter is said to have added a fish pool; if this means the main pool on the uppermost level it is likely that it was on the site of a former reservoir, for from this point the whole garden is, and apparently always was, irrigated.

As to scheme, it is chiefly absent. The layout is made up of the usual series of walled enclosures falling haphazardly in line. Even with so much ground at their command the gardeners never thought of creating long vistas nor planting alleys of trees. The main point to observe in the plan is that the enclosures nearest the palace are smallest, averaging seventy-five by a hundred feet, and admitting of more intimate treatment; while in the larger ones the set out plot units remain much the same but are repeated in order to fill a given area and thus keep all in the same scale. Where the plan shows, as it does on its outer edge, greater motivation even the layman's eye will instantly detect the eighteenth century. Of the vapidity of those decadent "Philippine days" nothing could speak more eloquently than the ambitious but fortunately unfinished project in the northwest corner beyond the courts of Maria Padilla.



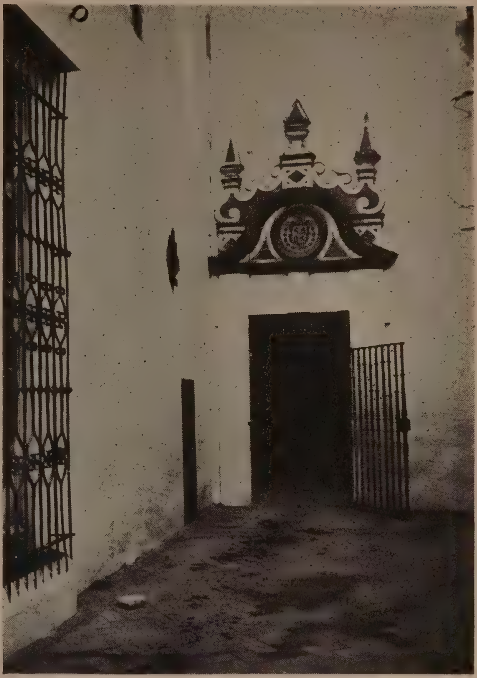
The Architectural Record *July,* 1924

General layout
THE ALCAZAR GARDENS, SEVILLE

The Alcazar grounds are entered at the uppermost level, which brings one immediately to the main irrigation pool, backed up by the rococo wall or rather, rococo facing to Peter the Cruel's fortified wall. From this eminence one descends at once to the main level. The first parterre parallel to the palace is known as the *Jardines de Maria Padilla.* Opening on this are the several vaulted grottos where, if legend be true, this mistress of Peter the Cruel used to bathe. The paths of contrary axes lead to the so-called baths of Jane the Mad and the pavilion which her son Charles V built. The Padilla parterre and the plaisance of Charles V are, to our mind, the best of the Alcazar Gardens.

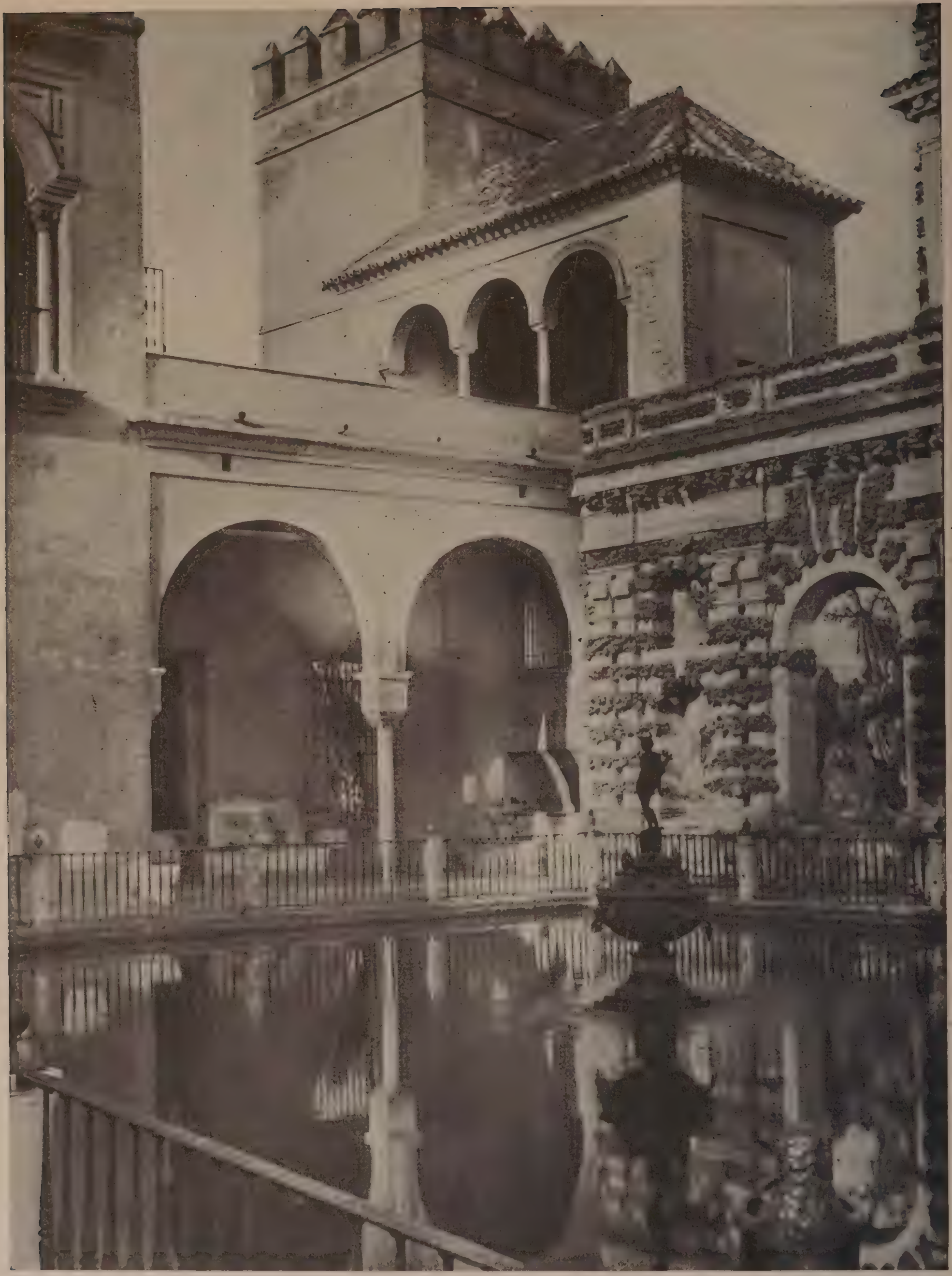
These gardens, being fairly large, offer a special chance to appreciate the effectiveness of long stretches of pleached white walls. Those contiguous to the palace extend up to the second story terraces, and their tops are turned into promenades and provided with a continuous parapet seat. Thus the inmates may step out and walk through the garden at second-story level, so to speak. Where walls of different height abut, the two levels are connected by parapeted steps. The top of the north or fortified and buttressed wall is likewise connected with the palace terrace by means of an arched passage over the entrance to the gardens; while the arcaded gallery built in the thickness of the wall can be reached either by a stair from the garden or a passage from the palace. Facing south, as it does, this wall gallery is sheltered from cold winds in winter and hot sun in summer—a practical as well as a decorative feature. Although none of the garden walls have fine iron or wooden gates there are several recessed window openings, treated in tile, that are particularly beautiful.

The only decorative accessory is the azulejo. Indeed, these gardens are a veritable museum of fine mellowed sixteenth-century azulejos; yet for all their prodigality there is a restraint as compared with the new Sevillian work. This is particularly noticeable in the pavements, mostly in unglazed dark red without colored insets. On the other hand fountains, basins, benches, stairs, and the Emperor's pavilion, are all in polychrome. Best among the fountains are those at the intersections of paths—low. star-shaped, and treated in yellow, green, and blue. These appear to have been taken as the model for every new fountain placed in Seville in the last ten years.

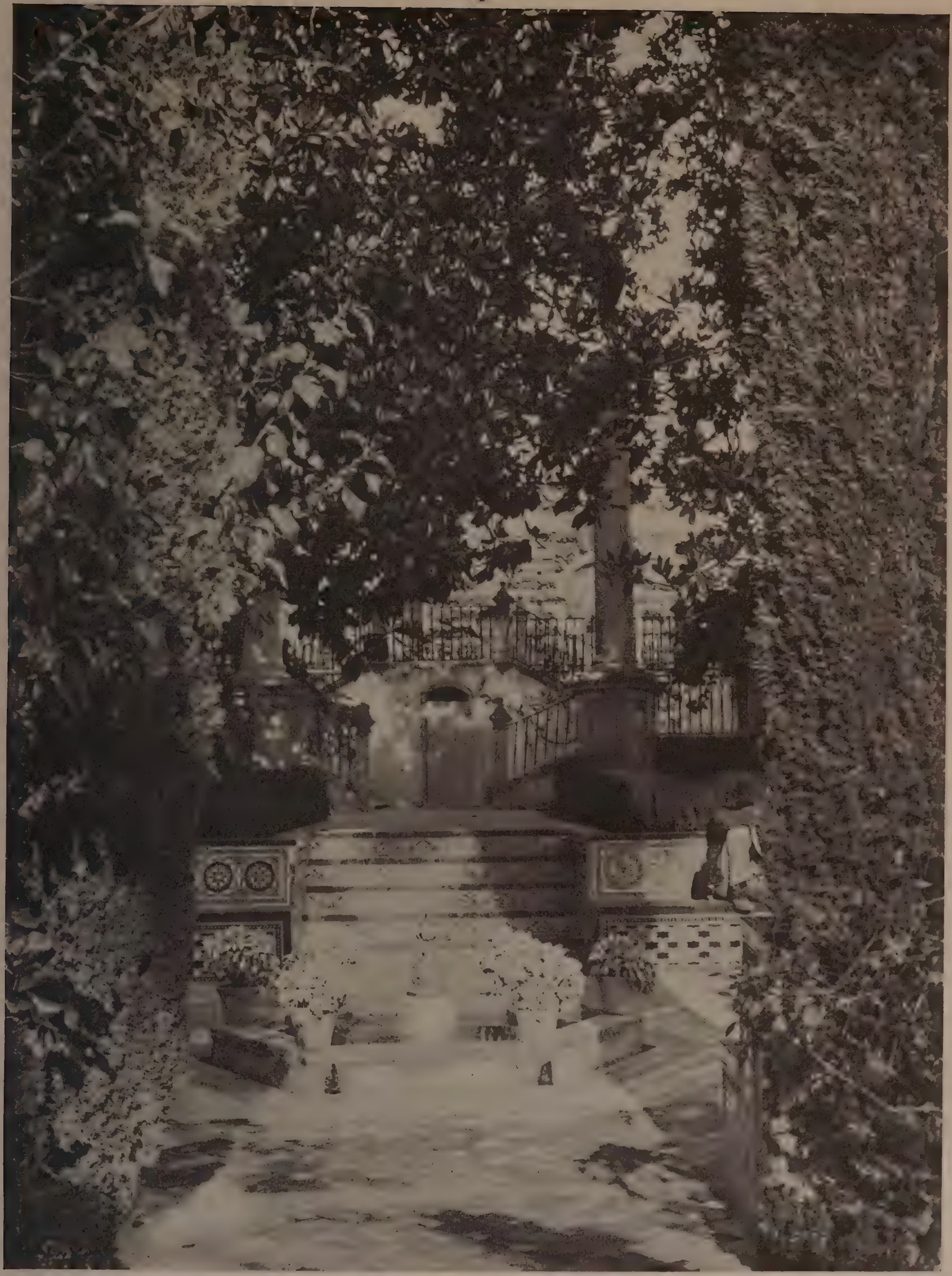


Entrance to the Alcazar Gardens with an overportal in blue and yellow terra cotta

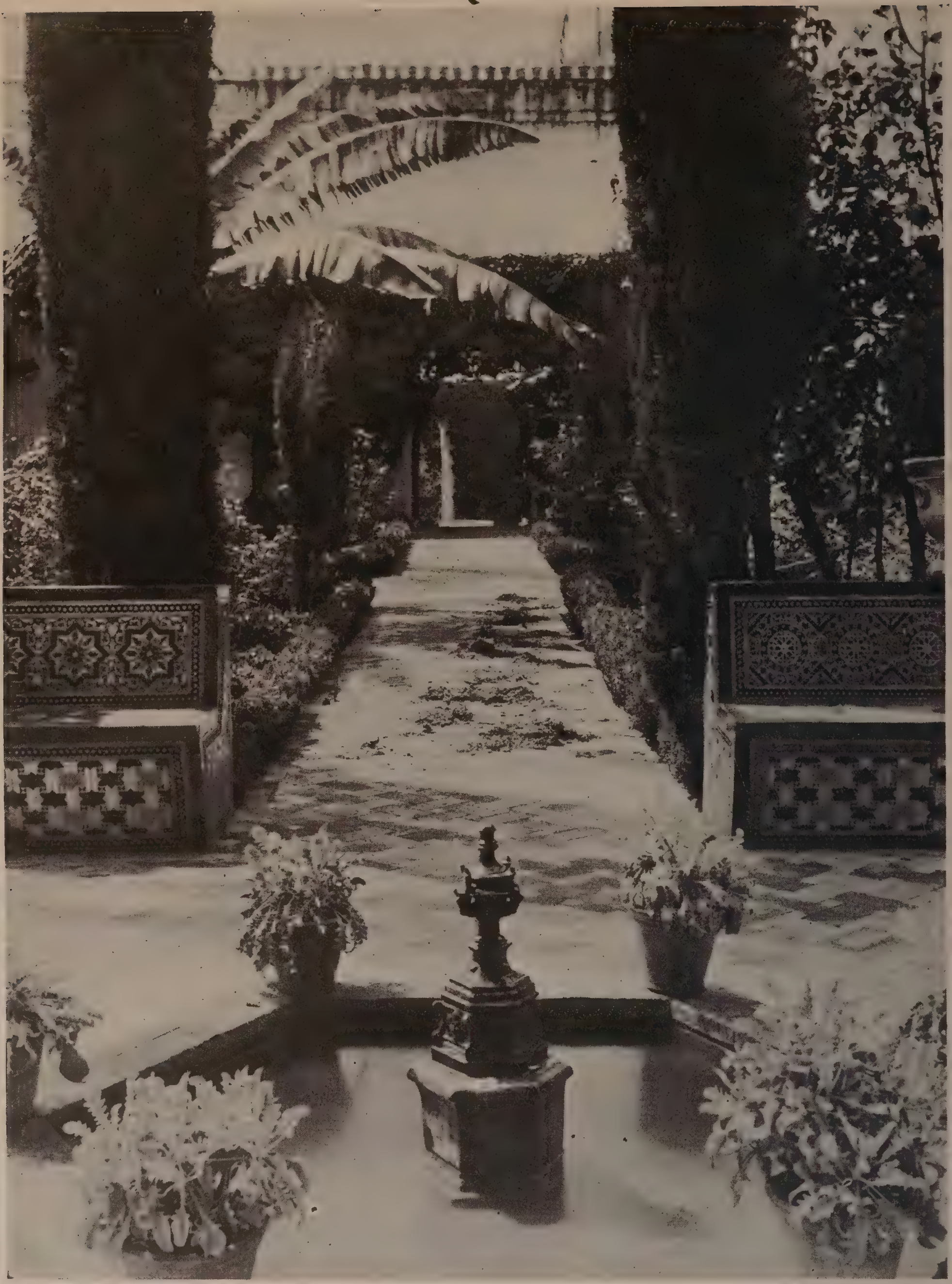
The polychrome bench is here seen at its best because, being of considerable length, it has not the abruptness of the short park bench of three or four seats. In combination with walls that measure from fifty to seventy feet long, or set against an equally long hedge, it almost achieves monumentality. Near the pavilion so often referred to is a *rond pont* featured with a circular bench in four sections, which is particularly interesting for its color. Unbacked, the bench is set against a high mass of box with whose deep green the brilliant yellow, blue, and light green sixteenth-century pisanos make delightful harmony. The French



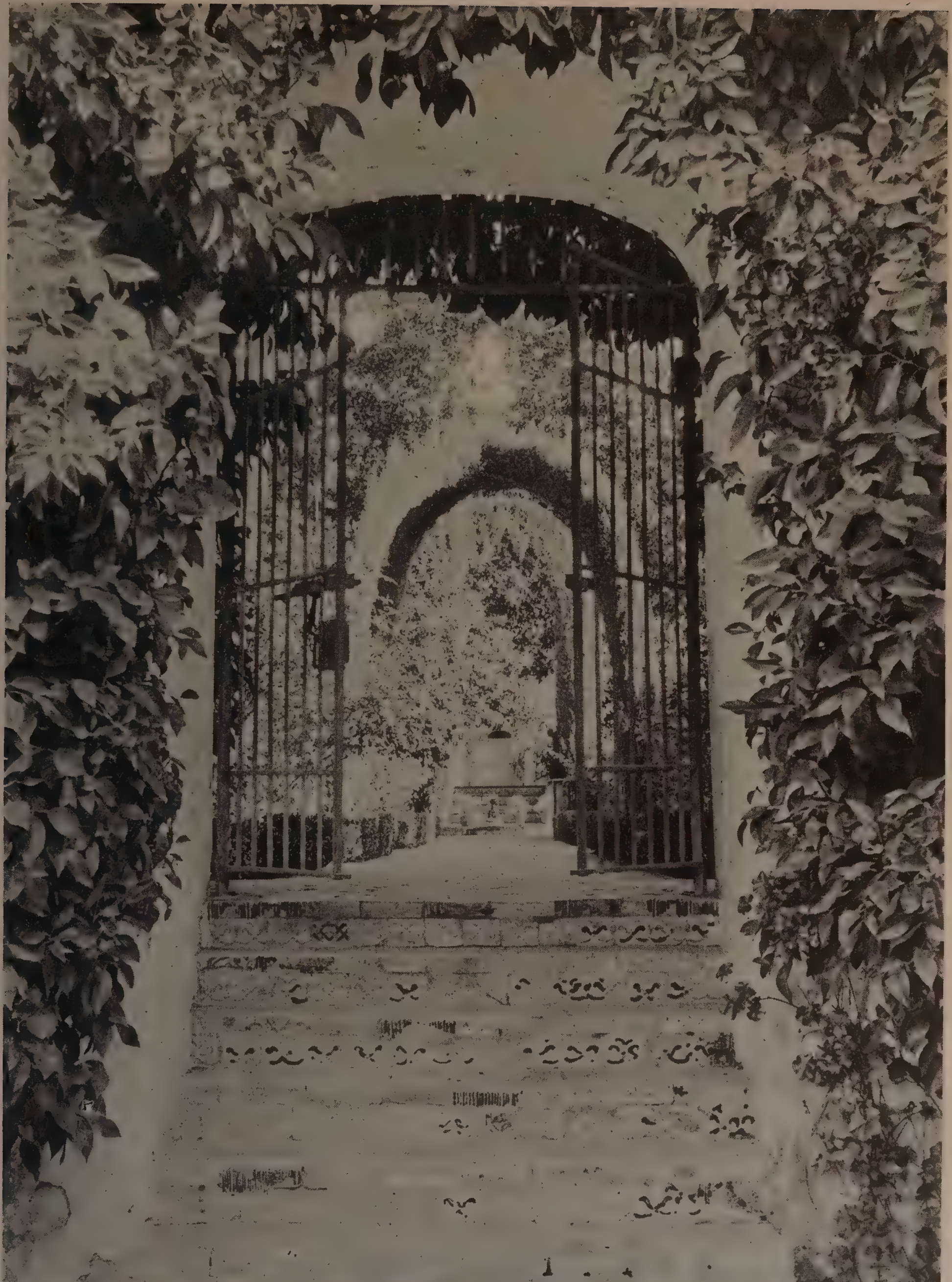
Pool and Entrance Loggia
THE ALCAZAR GARDENS, SEVILLE



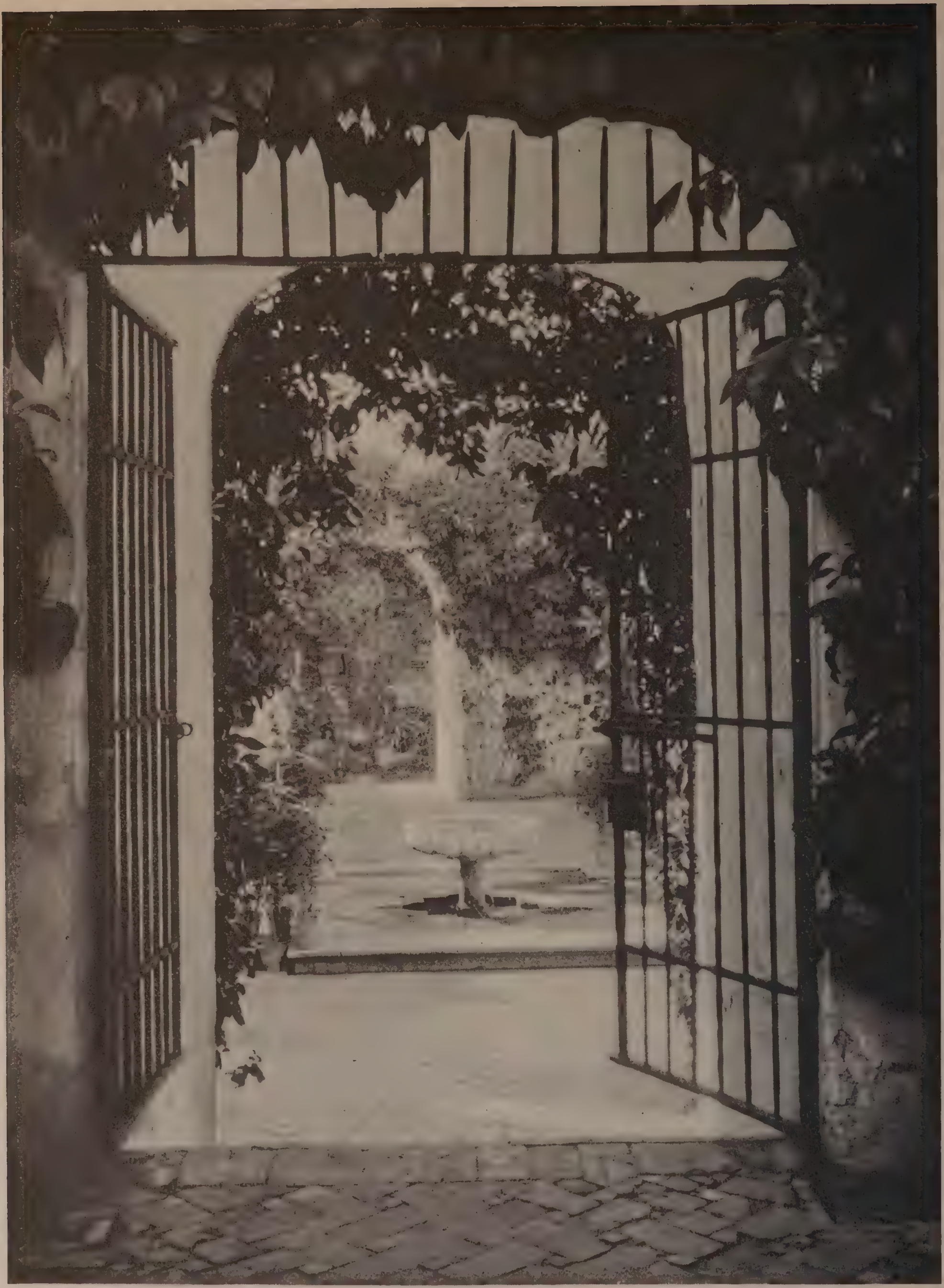
Garden of Maria Padilla, adjacent to the palace
THE ALCAZAR GARDENS, SEVILLE



Planting forms a green background for the polychrome tile accessories
THE ALCAZAR GARDENS, SEVILLE

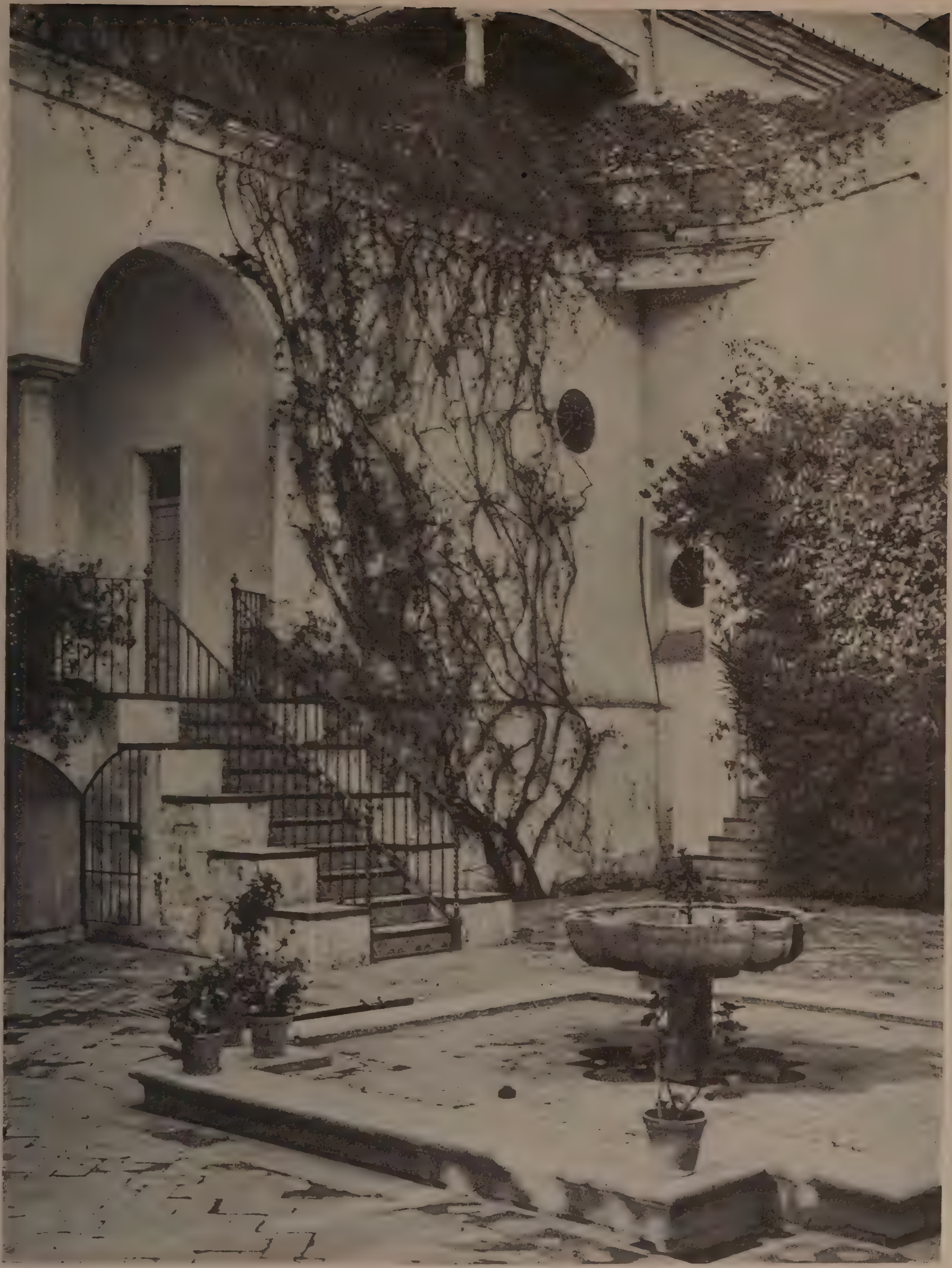


Differences of level have been purposely created to add interest
THE ALCAZAR GARDENS, SEVILLE



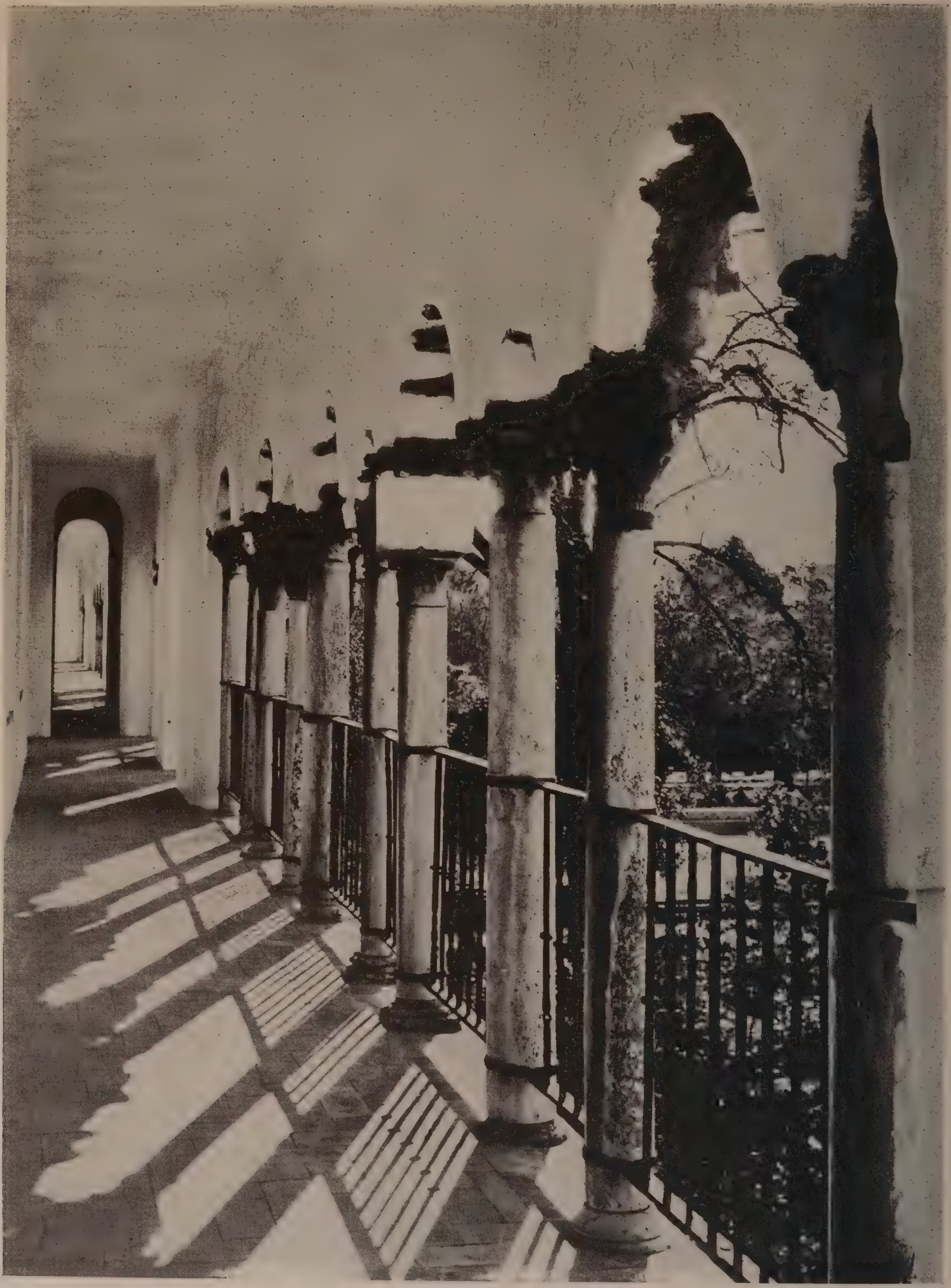
The walled enclosures are connected by grilled openings

THE ALCAZAR GARDENS, SEVILLE



A paved patio between two planted plots

THE ALCAZAR GARDENS, SEVILLE

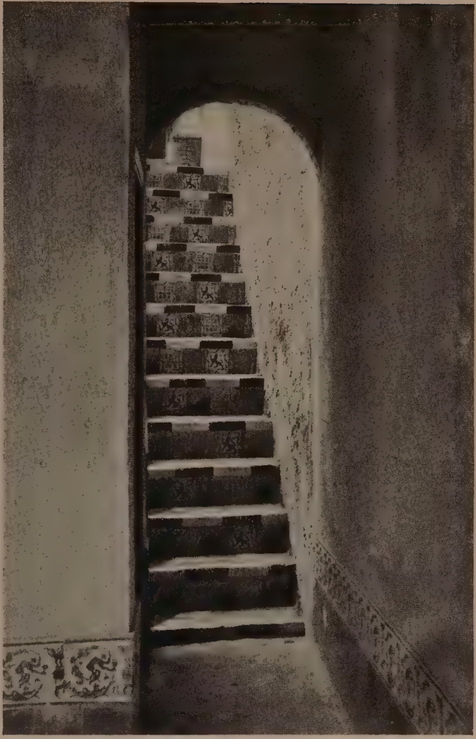


Gallery in the thickness of Peter the Cruel's wall, forming a sheltered promenade overlooking the garden

THE ALCAZAR GARDENS, SEVILLE

gardener who arranged the Ronda place already illustrated did something of the same sort with very good results.

As a tile creation the Emperor's summer house and the court in which it stands are a *chef d'oeuvre.* The former we have described, calling attention to the fine lustre tiles, of which not many remain today in Seville. It is set in the center of the court covering about half an acre, and this whole space is paved with unglazed red tiles laid in herringbone. Innumerable little circular beds for orange trees are edged with colored tiles, and around the enclosing wall runs a continuous tile bench. The trees, well clipped into spherical form and neatly set in their round earth pockets, appear dwarfed, as if they belonged to an embroidery or tapestry. When thick with fruit nothing could be more decorative than the golden green spotting in conjunction with the colored tiles. As a garden this spot has somewhat the quality of a primitive painting—perhaps for the same reason. It has *no drawing,* all is off axis and askew for no apparent reason, yet the result is charm.

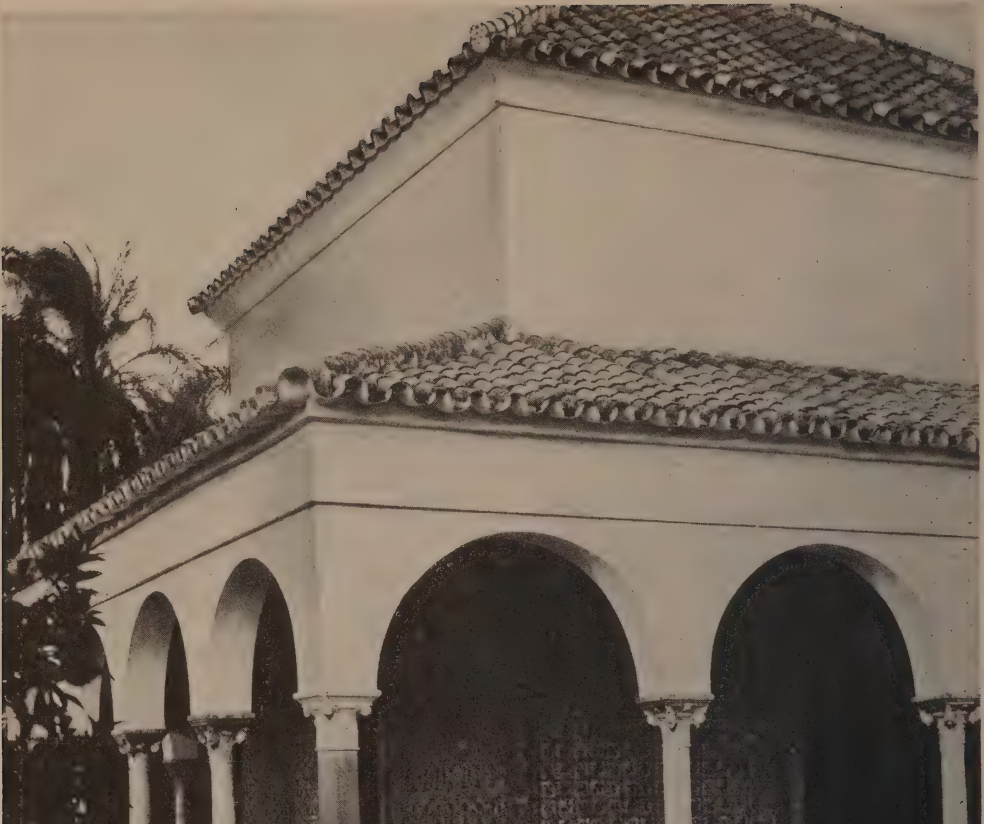


Stair of polychrome tiles built in the thickness of the wall and leading to a promenade gallery on top

Commenting on the plan of the Alcazar gardens it was observed that the walled enclosures nearest the palace (*de Maria Padilla*) were smaller and treated more intimately; meaning that they were more like outdoor rooms. As an extension of the living apartments they were kept very formal, mostly in tiles. Practically the only planting is against the white walls which are made beautiful by vines and pleached trees. The only bloom is that provided by potted plants set freely about (*en passant*, the large pots of cream glaze with the royal arms in blue are commendably unpretentious and do not try to rival the polychrome of the tiles) The first section, practically flowerless except when its immense and very impressive oleander tree is in bloom, offers an enchanting play of soft color as one enters from the upper level. Glossy, purplish green in the oleander leaves, waxy yellowish green in the lemon trees, and all the shades between; brilliant yellow and blue in the tiled fountains and benches, and their reflections in the broad basin heightened by the potted carnations that stand around. Out of these simple elements plus a few lordly peacocks a masterpiece of coloring has been created.

A great deal of interest is added to these courts by their being at slightly different levels and connected by tiled stairs. The whole garden terrain was probably equally flat, and these differences were intentionally created. Another effective detail that deserves mention and which we also suspect to have been intentional is the slight deflection of the main axis; by this trick, in the long vista through the several patios one always gets one side of the arched reveal beyond instead of merely the blank opening.

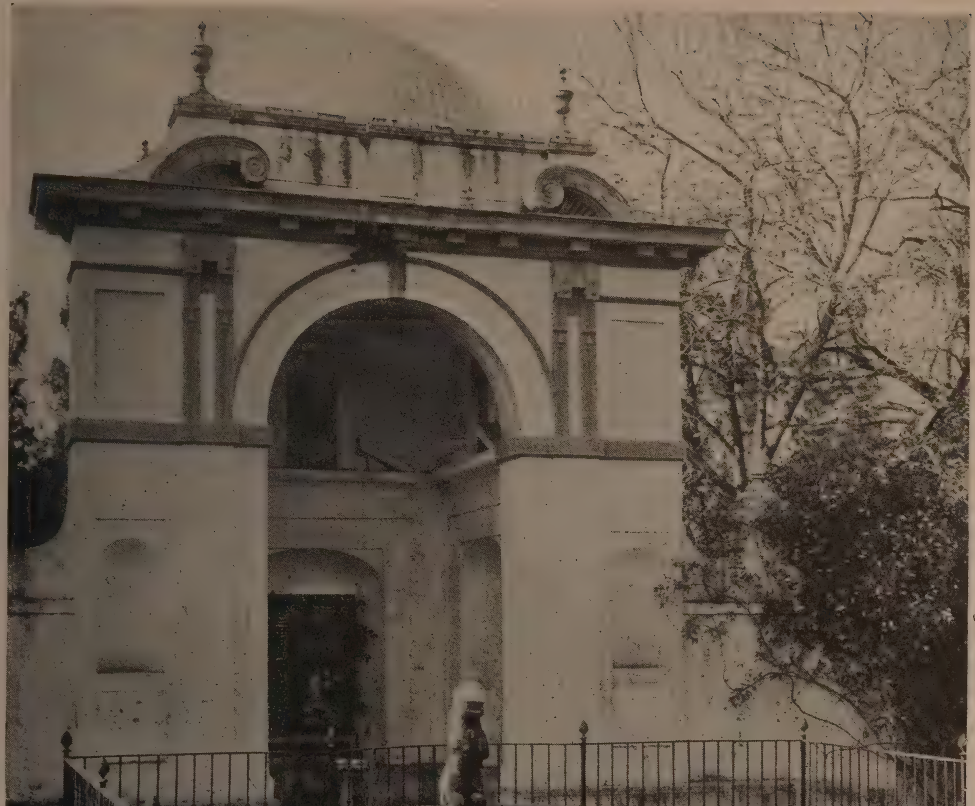
In the next and much larger parterre parallel to the Padilla, planting is the main feature; eight big plots set out in mazes of box and myrtle. These mazes



The Architectural Record July, 1924

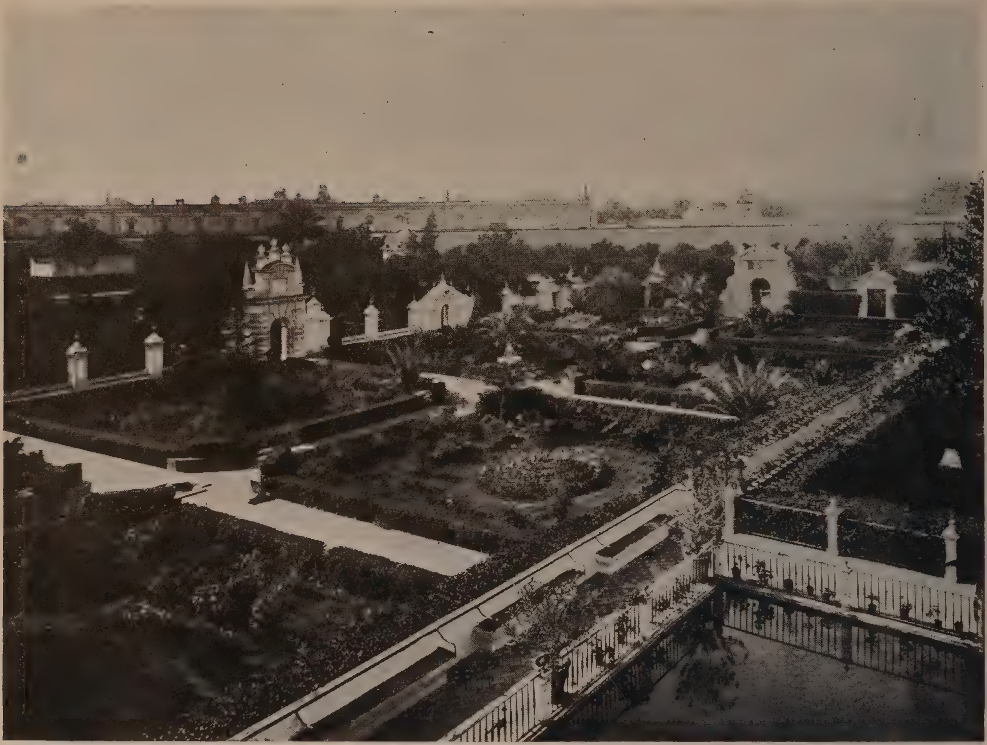
Pavilion of Charles V. The colored tiles are among the finest in Seville

THE ALCAZAR GARDENS, SEVILLE



Baroque pavilion and the so-called Pool of Joan the Mad

THE ALCAZAR GARDENS, SEVILLE



Photograph by Lacoste
General view of the Alcazar gardens taken twenty-five years ago, before new trees were planted

are of every conceivable design, geometric and scroll. Here are found the previously-mentioned insignia of the military orders outlined in box. Above these densely planted beds rise lofty date palms—the whole forming a green shade garden.

A more attractive garden than this of the Alcazar is hard to imagine. One feels the simplicity of the plan and is convinced that it must date back to Peter the Cruel's reign, if not earlier. Charles V's half-trained Spanish Italianists, had they started with virgin soil, would have attempted an ambitious partie and felt it necessary to dissimulate the irregularities of the site by some recognized academic solution. Confronted by an existing Moorish layout they wisely took the line of least resistance and did but little to modify it. Philip IV and Philip V's gardeners were less prudent; their trivial rococo revetment, *à la Boboli,* to the sturdy old medieval wall and their effort to *Louisize* the garden area to the west are distinctly unpleasant anomalies.

CONVENTION NOTES

IMPRESSIONS OF THE FIFTY-SEVENTH ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS, WASHINGTON, D. C., MAY 21-22-23, 1924.

By Hubert G. Ripley

In the days of the "roaring nineties," Washington was a city of many fine buildings. Broad streets and bathukolpian sidewalks offered opportunities for splendid vistas. Today the genius and wealth of the nation, the product of the foremost painters, sculptors and architects have been lavished on its adornment and upbuilding, until it has become a city rivalling the glories of Ancient Rome and the grandeurs of Tarshish and Carthage.

To attempt an impression of the fifty-seventh annual convention of the American Institute of Architects without the background of the city constantly in mind and view would be like a pageant without panoply—the songs of Ossian in the Morse Code. Full stenographic reports of the proceedings will reach every member of the Institute in due season, and exact information of all that transpired will be reported faithfully in handsome pica with nonpareil footnotes. This is merely a divagation that will, we fear, serve the statistician poorly. The continuity of the various events in these impressions is not guaranteed, and there are of necessity many omissions. Perhaps undue emphasis may be observed where undue emphasis is not called for. If such be the case the decisions in the official report are to be regarded as final.

The convention began on Tuesday evening at the Washington Hotel. The Washington Hotel is a pleasant place, large, airy and comfortable, with a refreshing absence of exotic marbles, magniloquent murals and period furniture. The prices are only slightly more instead of three or four times too much, which is comforting, and one soon learns that a two-bit tip for such *services menus* as bringing a bottle of White Rock with a pitcher of cracked ice and two tall glasses to Room 610, is from the recipient's point of view, the ideal amount. (We always suspected that a dime was not just the thing, and now we are sure of it.) The registration committee was busily engaged in the "Spanish Garden" room (why so called is difficult to understand) and somebody (we cannot now recollect who) was circulating a cabalistic paper in behalf of Stanley Parker, that everybody seemed most anxious to sign. We were not told what it was but as we all love Mr. Parker and trust him implicitly, we were proud to be asked to add our name to the list.

Wednesday morning dawned gray and opaline, like one of Whistler's "Arrangements," with a fine Scotch mist as the delegates met for breakfast in the café. The café serves a "Club" breakfast, also "Club" lunches and "Club" dinners. In the old days these used to be called "Combination" breakfasts and "Table d'Hôte" lunches and dinners. You could choose a meal of the simplest, coffee and rolls (Combination No. 1—35c.) or you could have strawberries and cream, cereals, sirloin steak with a rasher of bacon, hashed brown potatoes, poached eggs *sous cloche,* finishing with waffles and strained honey (Combination No. 9—$1.75). In "The Washington" the rules of the Club Breakfasts are strict, any deviation is heavily penalized. But as long as one plays the game one gets on very well. Upstairs in the Restaurant more freedom is allowed.

It is a delightful stroll across the park to the Corcoran Hemicycle, where arrangements had been made for the convenience of the delegates. The walls of the coat room had been tastefully hung with a series of *genre* paintings that were well worth studying, and seemed to afford a gratifying degree of interest to all. The human amenities had not been forgotten. Adjoining the coat room was the "Journal" book shop, where Mr. Whittaker had arranged a display of the most fascinating books, prints, etchings, sketches and posters that we have ever seen gathered together for sale. The temptations of Saint Anthony were not more potent than those of the ingratiating editor. Fine bindings at ridiculously low prices, splendid and exotic editions of belles-lettres from Roman times to the present day, side by side with the finest folios and monographs of the masters of the ages, intoxicated the senses and acted like a dose of heroin on the customary caution of the delegate with slender purse. During the entire convention the space reserved for the book shop was thronged with a crowd of excited buyers.

Promptly at 10.32, President Faville declared the Convention in session. Every seat in the Hemicycle was filled, numbers standing at the top of the bank of seats where openings in the Doric colonnade permitted. There were eight regular sessions of the convention in two and one half days, besides numerous informal sessions of varying character. The house was sold to capacity at every performance, though the audiences were apt to be somewhat tardy in assembling. A small percentage of the fair sex, and a larger percentage of bald heads were noted. The gathering as a whole was dignified, austere and cosmopolitan in character.

The president's address was listened to with attention, and at its close the impressive tributes to the passing of Henry Bacon, Louis Sullivan and Bertram Goodhue were received with deep feeling. The great loss that the Institute has sustained in the death of these noted men within a few short weeks, is irreparable.

The treasurer and the secretary each presented reports that indicated how intensive is the self-sacrificing and conscientious performance of the multitudinous duties of these officers. It is estimated that by 1926 there will be 10,000 architects in the United States and that a fitting proportion eligible for membership in the Institute would be 4,000. The present membership is nearly 2,800, leaving 1,400 to be taken in during the next two years. How best to interest these men so that they will join us is one of our problems.

An interesting, though not illuminating discussion on the plans for the Octagon House brought out a strong sentiment for the restoration of the entire group of buildings to its pristine condition.

The Wednesday afternoon session was given over to the consideration of public building problems and addresses were delivered by Lieut. Col. Clarence O. Sherrill, who spoke on the need of more adequate housing of Government Departments and in support of legislation sponsored by Senator Smoot, and Brig. Gen. Herbert M. Lord, director of the Bureau of the Budget, who gave an illuminating and picturesque exegesis of the problems that confront this most necessary department. "A year ago," said Gen. Lord, "corrections in authors' proofs cost the government the appalling sum of $240,000, just to change a 'which' into a 'that,' or the re-phrasing of the subjunctive into the past definite. It reminds me of the man who found two needles in his soup and reported his discovery to the waiter who had always served him with scrupulous attention. The offending dish was removed and the waiter shortly returned with the explanation—'Beg pardon, sir, but that soup was a typographical error,—it should have been noodle soup instead of needle soup.' This year the expense for proof corrections will be but $60,000, and next year, we'll cut that figure in half if we have to split every infinitive in the English language."

The fag-end of the afternoon was consumed by Mr. Kelsey's illustrated lecture on "Rome! Radiating Rome." There were two things worthy of note—the speaker's delivery was in a loud, clear resonant voice and he did *not* (as Heyward Broun remarks) fall off the platform. This is as far as we care to go. The evening session, presided over by Mr. Dunning, was in the nature of a report on the curriculum of our foremost architectural schools, and an earnest appreciation of the devotion of the late Lloyd Warren to the ideals of the Beaux Arts Institute of Design. The founding of this Institution which has exercised such a profound influence on recent American architecture, is due mainly to his efforts. Its astonishing progress is shown in the last thirty years by the increase from forty *rendus* to over three thousand during the current year. Whereas twenty-five years ago about one hundred architects returned each year from the Paris ateliers, now there are none coming back. The work is being done in hundreds of ateliers scattered all over this country from Seattle to Palm Beach.*

Thursday morning was magnificent. The perfume of the rose gardens, the kaleidoscopic masses of iris, the showiness of the salpiglossi and the brilliance of the Prunus Japonica, the fleecy clouds accentuating the azure of the sky, formed a background for the stately marble and tawny limestone palaces lining the boulevards of the Capital. In any other but an American city, flower stands would abound on the street corners and banks of blossoms would greet the eye in the public squares, just as in the piazza d'Espagna or the flower stalls of Nice and the islands of Picadilly Circus. Perhaps we are too busy to bother with nosegays or a camellia for the boutonnière, though there was evidence of floral and faunal research by some of the delegates who arrived late at the convention hall. At least a genial air of wild thyme hung over certain ones, indicating an instinctive love of the humanities.†

Our duties were of such an absorbing nature that we had little time to take note of new buildings since the last convention. Mention must be made, however, of Arthur Heaton's new building for the Washington Loan and Trust Company, on Seventeenth Street opposite the inchoate mass of the State War and Navy Department. Its façades are of dazzling Kentucky limestone (which seems to weather so exquisitely in the climate of Washington). There is a Spanish tile roof and bright bronze in the windows and doorway. A highly polished stylobate of lavender syenite or igneous hornblende surmounted with a noble torus moulding completes the façade, and carries out a color scheme that is most entrancing when lighted up at night. Well proportioned mouldings frame the great windows and the interior is chaste and inviting. One feels that perfect and implicit trust may be placed in such a depository. On Sixteenth Street at the very top of the hill is the New All Souls Church by Coolidge & Shattuck. This firm won the Harleston Parker Gold Medal in Boston last year for excellence in design and construction of the Boston Lying-In Hospital. Should they ever build such a beautiful church as All Souls in the Metropolitan District of Boston, the medal would be given them again by acclamation. It is a generous though modest group of buildings in red brick and light gray stone with a noble spire that pierces the vault of high heaven. In design it satisfies the soul, and one is constantly finding delightful surprises in detail of exterior and interior. Wren, Bulfinch, Vanbrugh, or MacIntyre would be proud to have the church attributed to them.

Beautifully situated on B Street fronting the Lincoln Memorial is the new building of the National Academy of Sciences and the National Research Council. This splendid Temple of the Sciences dedicated scarcely a month ago, is, as all know, the work of the lamented and well-beloved Bertram Grosvenor Goodhue, ably seconded by Lee Laurie. It would be hard to imagine a finer structure for such a purpose or one where the sister arts are more closely interwoven and inter-dependent. It is the ideal union of architecture and sculpture. Each is the complement of the other, and the beauty of both is an imperishable tribute to the immortal gods of High Olympus.

The morning session was thirty-seven minutes late in starting—in fact all sessions were behind schedule—but the machinery worked efficiently as soon as the throttle was turned on. The report of the Committee on credentials showed that out of some fifty-five chapters only six were unrepresented, the total number of delegates being two hundred and sixteen. The method proposed by the Board for a change in the by-laws relating to the election of Fellows brought out an interesting discussion, especially the resolution that "no member who fails of election (to Fellowship) shall be eligible for renomination for at least two years." By amendment, it was finally voted to change this to one year, at which Mr. Magonigle inquired if this pendency "might be termed a period of purification!" Shortly before noon Mr. Robert Jones gave an illustrated lecture on the work of the Small House Service Bureau. We have heard of Mr. Robert Jones' prowess as a golfer, but have never before had the opportunity of hearing him speak. As a golfer he will add prestige to his chapter, and as a speaker he is a wonderful golfer. Either the lantern or the slides themselves must have been in a terrible condition. The projections were distressing and were for the most part regarded in gloomy silence. If the work of the Small House Service Bureau is to continue under the control of the American Institute of Architects and the indorsement of the United States Department of Commerce, it is high time that better designs were "duly promulgated" and a lot of unworthy daggle eliminated.

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*Is this wholly a cause for congratulation, and will the results of the next twenty-five years show the commensurate progress in American Architecture that the leaven of the Paris School has been so largely instrumental in bringing about?

†The wild thyme and the date palm live out all winter in sheltered locations in the mild climate of Washington. As Horace remarks, "Ille terrarum mihi praeter omnes angulus ridet."

The afternoon session on Thursday was one of those rare occasions that happen at Institute Conventions about once in ten years. The subject for discussion was "What is Precedent Doing to American Architecture?" though Mr. Magonigle (presiding chairman of the meeting) told us that his preference for a title was "Plagiarism as a Fine Art."*

Carefully prepared papers by H. Van Buren Magonigle of New York, William A. Boring of Columbia University, W. R. B. Wilcox of Eugene, Oregon. Dr. Ralph Adams Cram of Boston. and William L. Steele of Sioux City, Iowa. were read, and for nearly three hours a capacity audience gave them its absorbed attention, time after time bursting into spontaneous applause. The tribute was a notable one. and the speakers were well worthy of it. It would be possible to give but the faintest and most tenuous outline of the five inspiring papers. They will all be published in full, and it is hoped that a separate volume, in 40 *telliere sur papier vergé pur fil Lafuma-Navarre,* may be prepared so that every architect and all the cognoscenti in the United States may have one for constant reference. We venture to say, without fear of contradiction, that this discussion will do more for the cause of American architecture than any treatise since the days of Jacques François Blondel. As an example of team work, the literary quality, the wit and the wisdom displayed, the inspiration and the promise, the occasion was unique. There is still balm left in Gilead.

There were two more sessions of the Convention for the necessary transaction of routine business, and a number of informal luncheons and dinners.

Friday afternoon was devoted to a reception at the Bureau of Standards by the Hon. Herbert Hoover, Secretary of Commerce, and others. Through a misunderstanding or contretemps of some sort, there developed a static condition, a polarization of the ray-tracks, a sort of thermal emission of negative electrons, to use the jargon of the radiophile, that foozled the approach, and prevented the full consummation of the programme. A number of the delegates had a nice ride in sight-seeing lorries at a moderate charge and an opportunity for social intercourse which the exigencies of the convention had hitherto denied them. Many of us meet old friends and former acquaintances on these occasions. We overheard one man greet another cheerily "How do you do, Mr. Stokesby?" Stokesby, who is from one of our metropoli, looked over his man slowly and said "I don't believe I know you." "Pardon me," said his questioner, "Didn't I meet you two years ago at the convention in Chicago?" "I've never been in Chicago," replied Stokesby. "Neither have I," said the first man, "I guess it must have been two other fellows."

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*Slogan: "Early to Crib, Early to Rise."

NOTES AND COMMENTS

SAVING THE FINE ARTS BUILDING

Chicago is in the throes of another popular movement to save one of its "Historic Monuments."

Some years ago a similar sentimental uprising during the widening and extension of North Michigan Avenue prevented the razing of the "wedding cake Water Tower" at Chicago Avenue and the Drive so that today the city's busiest thoroughfare is pinched in the middle with the Tower, a serious obstruction to traffic.

The latest movement has to do with the Fine Arts Building in Jackson Park, the last great survivor of the World Columbian Exposition. It is proposed to attach a public auditorium to the old building, restore the ruins and thus preserve this epochal work for future generations.

Intermittent agitation, growing by organized propaganda over a period of fifteen years has, at last, reached such force that a final decision as to the fate of the structure is about to be made by public sanction in the form of a bond issue authorizing the expenditure of five million dollars.

A while back, the Chicago Chapter of The American Institute of Architects appointed a special committee to report on ways and means for the preservation of this "monumental work." The committee reported favorably on anything from a zoölogical garden to a home for indigent architects. To lend zest to the local architects' response to the people's sentiments, a successful national convention of the American Institute of Architects was recently held in Chicago with ceremonies ending in a grand and effective banquet under the rotunda of the old building.

Public sentiment thus encouraged lashes itself to frenzy, so much so that should there be raised a single voice in protest, nothing short of the guillotine would be "the punishment fitting the crime."

During the war, the Government made a thorough investigation of the "Old Fine Arts Building" with a view to re-building it into a reconstruction hospital for the overseas forces. The report as to its structural condition was unfavorable and the project was abandoned.

Now comes this unbridled inspiration of turning the old building into a huge public auditorium. Mr. Ernest Graham was authorized to report on the feasibility of this latest aberration. He frankly and fearlessly states in his report that it will cost more to reconstruct the old building than to build a new one.

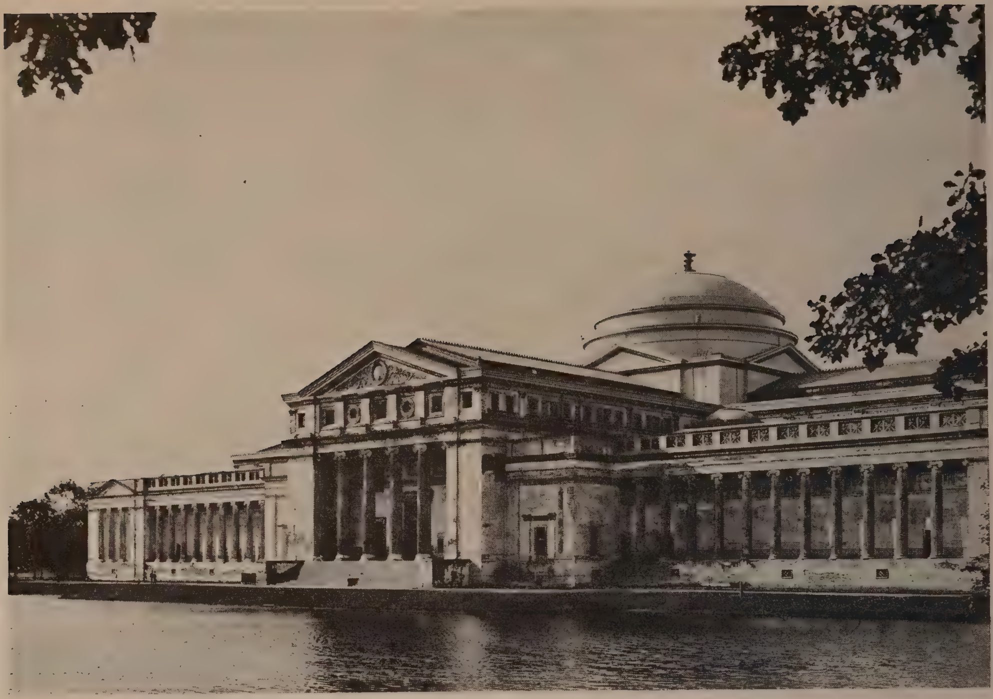
Despite Mr. Graham's adverse findings—and he does swing a mighty club—the Chicago Association of Commerce goes on record "in favor of the preservation of the Fine Arts Building in Jackson Park and the construction of a great Public Auditorium in connection thereto," pledging itself to work for the project.

Let us take a sane view of the matter and see what all the commotion is about.

The Fine Arts Building fulfilled its purpose as a temporary "Picture Building" to house the fine arts exhibits during the World's Columbian Exposition in 1893. It was built of staff on a framework of wood and common brick walls and, obviously, was not intended to be permanent.

Surely at Fair time it was strikingly effective with its chaste detail and lily white exterior set in formal gardens, with multicolored banners flying in contrast with its austere Greek beauty, its south front further enhanced by being mirrored in the waters of the lagoon which quietly lapped against the very base of the structure, reflecting sky, trees, banners and building intermingled in a two-fold picture of dazzling contrast.

But Time has passed its cruel hands over the holiday scene and the Fine Arts Building stands today a scaly, wormy pile, only sug-



THE FINE ARTS BUILDING IN JACKSON PARK, CHICAGO

gestive by its form and mass of a one-time grandeur. Even an attempt to restore one end of the building does not help the picture. Yet memory is tenacious and the suggestion lingers like a mother weeping over a lock of cherished baby hair.

After the Fair the building was maintained to house a permanent collection of natural history exhibits, forming the nucleus of the present Field Museum of Natural History, and was temporarily used for that purpose until the new building was completed in Grant Park. Thus the old building prepared the way as it were for the new Field Museum recently completed at a cost of approximately eight millions. Before the change was effected, however, many of the valuable exhibits were damaged and in constant danger of destruction owing to inadequate protection from the elements afforded by the condition of the rapidly disintegrating Fine Arts Building. With a permanent home finally established through the generosity of a group of Chicagoans of means, the old building, having outlived its usefulness, was doomed.

But not yet—the "antiquarians" raised their faint cry for preservation and the pilgrimage was on. This feeble cry had its echo, and the echo became a voice and then a roar, so that even the architects of Chicago heard and joined in the chorus, succeeding finally in seducing the national convention of the American Institute of Architects to meet amidst the relic of Antiquity.

Now what, may I ask, has the old Fine Arts Building contributed to the cause of Architecture?

To begin with, its design was not inspired. Turn to the Grand Prix d' Rome for the year 1867 and see the original drawing by Bernard "un Palais Pour l'Exposition des Beaux Art." Bernard's design was a capable student's contribution of merit and distinction and as such can bear serious consideration. But imagine the French people putting a school problem in lasting material. Banish the thought. No:—the French Government sends its Grand Prix d' Rome men to the very source of Antiquity, orders faithful measured drawings made of the historic monuments for documentary study, and we copy them *in toto*.

But to return to the Fine Arts Building, we find that the imagination and enthusiasm of Bernard's design is here expressed in the refined detail of the Erechtheum, thereby out-Greeking the Ancient Greeks and nothing more as far as real potent value to the City of Chicago is concerned.

Let those who cherish this "classic" and worship at its shrine put their resources in a common fund, cause an accurate scale model to be made together with measured drawings and hand these down to the coming generation instead of patching up a crumbling ruin.

The world is moving rapidly in thought and deed. Science and discovery open the way for development of a new order along rational lines. There is a great future for real architecture in America.

Will the Greek style, which came to full bloom and died during the Periclean age, be held in the same light henceforth? Time alone will tell. In the meantime, let's quit being a lot of sentimental idiots and try to grow up!

A. N. Rebori.

Inferno—There are giant objects which sprout telescopic wings like bats.

A PROJECT FOR A THEATRICAL PRESENTATION OF THE DIVINE COMEDY OF DANTE ALIGHIERI BY NORMAN-BEL GEDDES*

This book is a *tour de force* of the creative imagination, by that most fertile and versatile artist in the theatre, Norman-Bel Geddes. Having conceived the idea of presenting Dante's Divine Comedy in such a way that it should appeal to the emotional nature through the eye and ear, he sweeps aside all the time-hallowed devices and conventions of the theatre, and creates "once and for one only" a new theatre, a new stage, a new art form of which light is the dominant and controlling element. I say he "does" this, and the doing of it is no less amazing than the concept itself. Denied—up to the present—the opportunity to realize his vast, ambitious dream concretely, with actors, and an audience, he proceeds to make (with the assistance of his pupils) a small scale model of his stage, peoples it with hundreds of little clay figures, lights it with elaborate art, and then, summoning to his aid a photographer of genius, Francis Brugière, he is enabled to present some twenty scenes to the reader with such clarity and completeness, that were it not for the clue afforded by the text, one could easily be deceived into believing that these were photographs

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Foreword by Max Reinhardt. Photographs by Francis Bruguière. Published by Theatre Arts, Inc., New York, 1924.

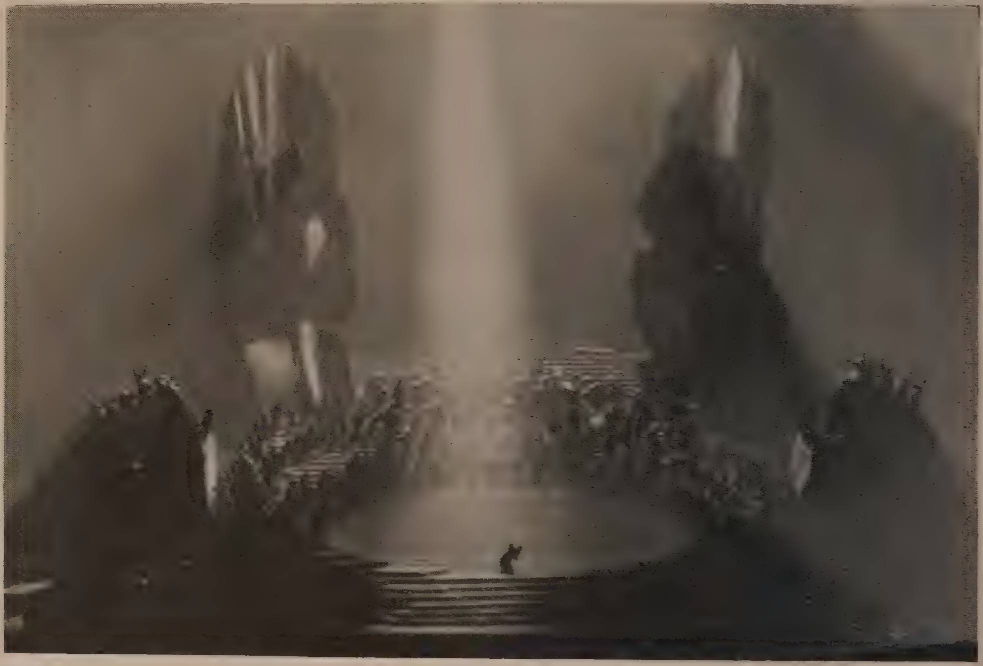
taken of an actual production, enacted by living human beings.

Indeed, one cannot but question if a regular production would be, in all ways, as good. Might it not lack some of the admirable abstractness and mystical quality here in evidence? Might not Dante be shoved aside by the mere showman in Mr. Geddes that dogs the footsteps of his genius? But such speculations are vain; suffice it to say that this book represents a very real achievement.

Many artists are preoccupying themselves with *light* as a means of emotional expression, and Mr. Geddes has gone along this path, for The Divine Comedy becomes, in his hands, a drama of light. It begins in utter darkness and ends in a blinding radiance, passing through a multitude of phases, and synchronized to the mood and to the action as delicately and precisely as the music of a song to its words. The light changes at every moment of time, and so important does Mr. Geddes regard this aspect of his drama, that it is said that he went to the pains to make a drawing for every lapsed minute of the entire performance, in each one of which a different light effect is shown.

His idea is to use music as he uses light, "coördinated exactly in rhythm and color to the dramatization, but free from any conspicuousness in itself, an organic part of the whole production." A third medium of expression he discovers in the mass movements of many human figures up, down and around the stairs, platforms and pylons which constitute his stage. What he is striving for is "to express emotional beauty through the unification of certain elements, each element translating into its own medium the quality of each varying moment and produce this sensation simultaneously with the other elements."

Without the coöperation of Francis Bruguière, the photographer. Mr. Geddes could never have communicated his dream. The plates are interesting from the standpoint of photography alone. How some of the effects were achieved one cannot imagine, but not easily, or by chance, one feels assured. The Introduction is by Max Reinhardt. In it he pays a deserved tribute to Mr. Geddes' genius—and well he may, for the chief excellence of the Miracle—the transformation of a theatre into a church—was solely of Mr. Geddes' devising. The book is handsomely printed and would make an appropriate and unique addition to any architect's library.



Purgatory—The shape of the towers is altered by the actors carrying forms of different shapes which conceal them and are suggestive in their combination of symbols.

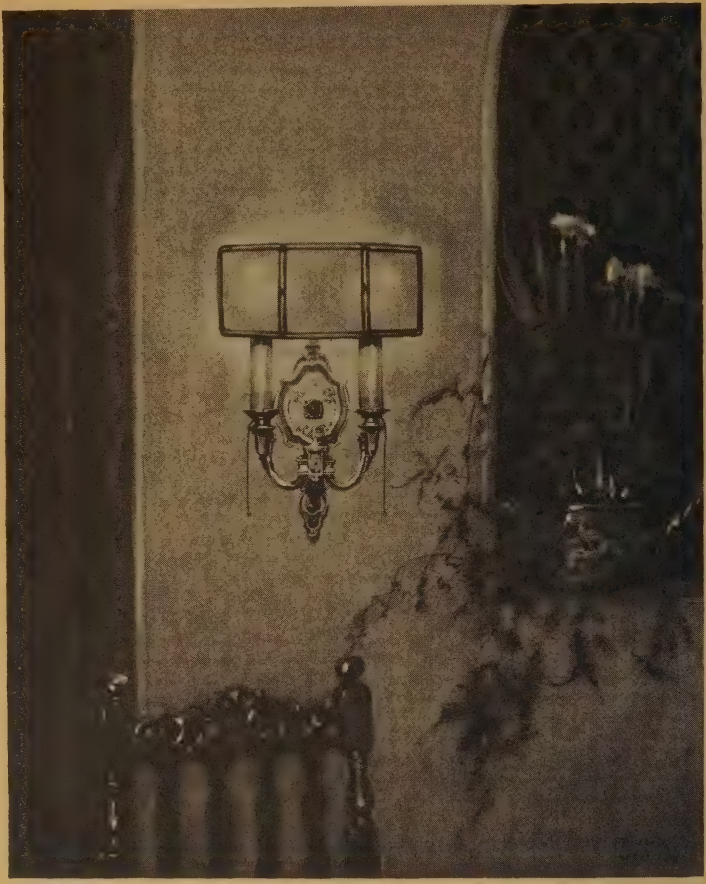
Claude Bragdon.

The ARCHITECTVRAL RECORD

AVGVST 1924

Riddle

DECORATIVE LIGHTING FITMENTS

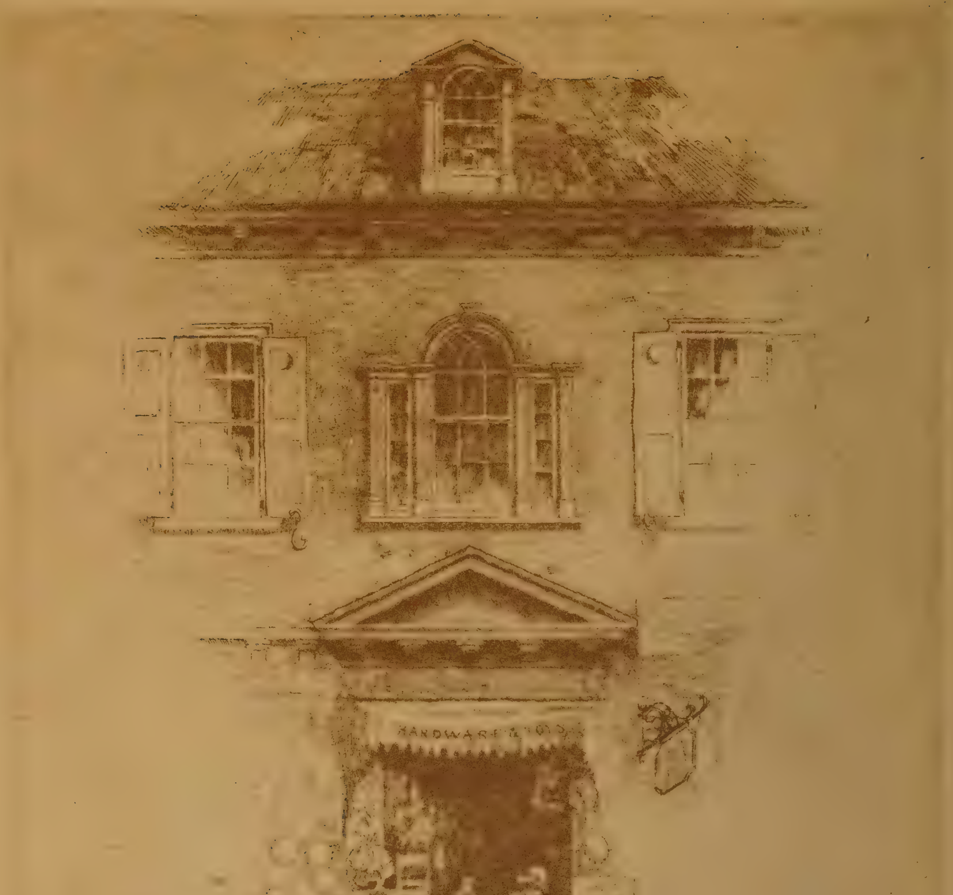


Much of the improvement in the appearance of the American home is directly traceable to the interest of the architect in the lighting equipment. There can hardly be too much insistence on the selection of appropriate lighting fitments.

Any extra thought and care bestowed on this subject are amply rewarded by the greater satisfaction derived from a lighting installation that is in good taste and in accordance with present standards in the decorative illumination of the home.

To architects and builders we shall be glad to send a color folder illustrating Riddle Fitments in the Esperanto Decoration and giving details of the Riddle Planning Service.

THE EDWARD N. RIDDLE COMPANY, TOLEDO, OHIO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RECORD

VOLUME 56 AUGUST, 1924 NUMBER 2

A FRENCH EXPRESSION of MODERN ARCHITECTURE

The Church of Nôtre Dame, at Le Raincy, Seine-et-Oise —

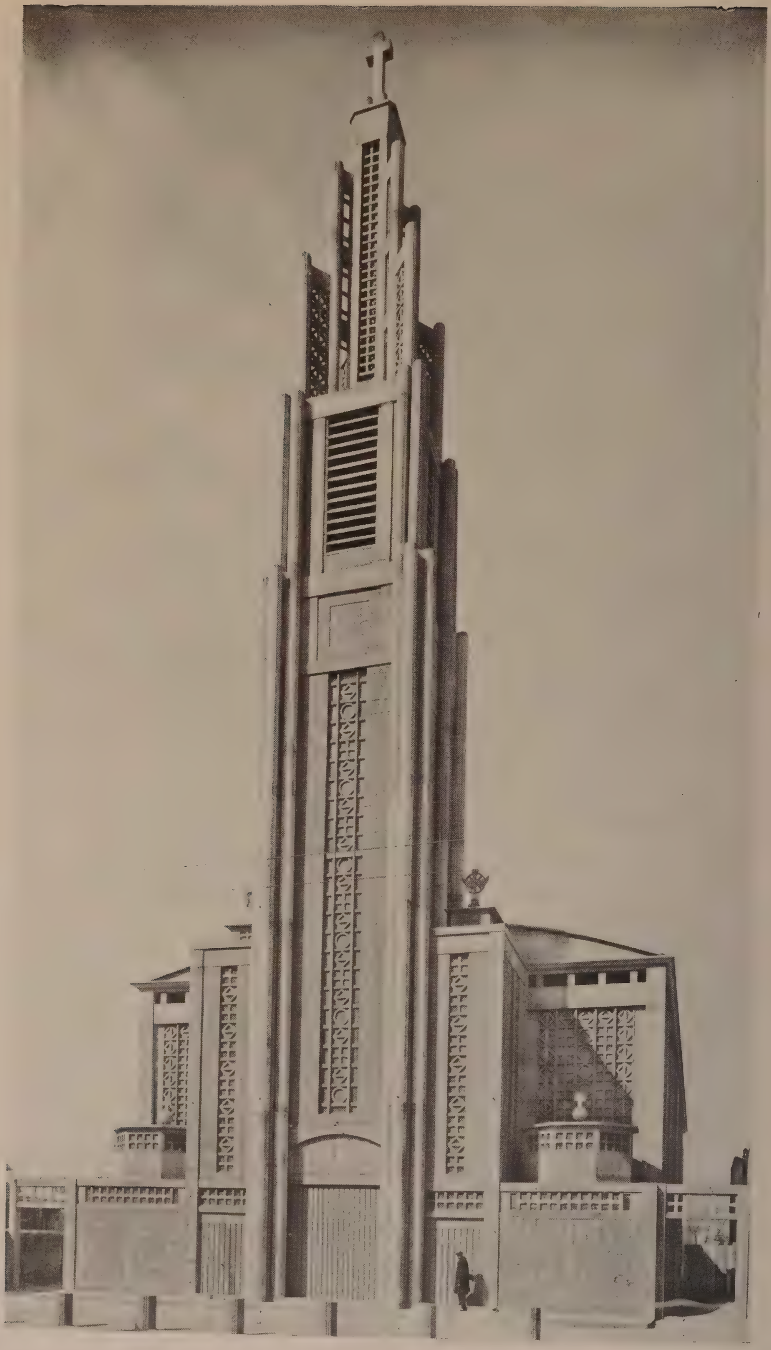
A. & G. Perret, Architects

By William D. Foster

Le Raincy is a small commercial town some six miles northeast of Paris, entirely modern and built on land which once formed the grounds of the old château. It is because the town is so modern and without older monuments that we discover that somewhat unusual thing—a new church in a French town; not a small chapel, but a church of considerable size, and in this case one that assumes importance because of its architectural handling.

A writer has said in a recent article in a French magazine: "It is perhaps necessary to go back to the building of the reading room of the Bibliothèque Nationale in order to find in the history of French architecture a fact of an importance comparable to the construction of this church by Auguste and Gustave Perret." It is indeed a departure from tradition. While at first glance it is entirely different from everything we are accustomed to, yet there are elements which seem to connect it quite definitely with the past, for the architects have shown a real respect for precedent. They have not desired to detach themselves from the continuous progression of architectural achievement, but have merely sought to express themselves honestly with the material which they have used, thinking out this expression without binding themselves by the manners used with other materials.

Dedicated in June, 1923, it is another example of the logical and clear intelligence of these architects, whose regard for the expression of construction with-



The Architectural Record *August*, 1924

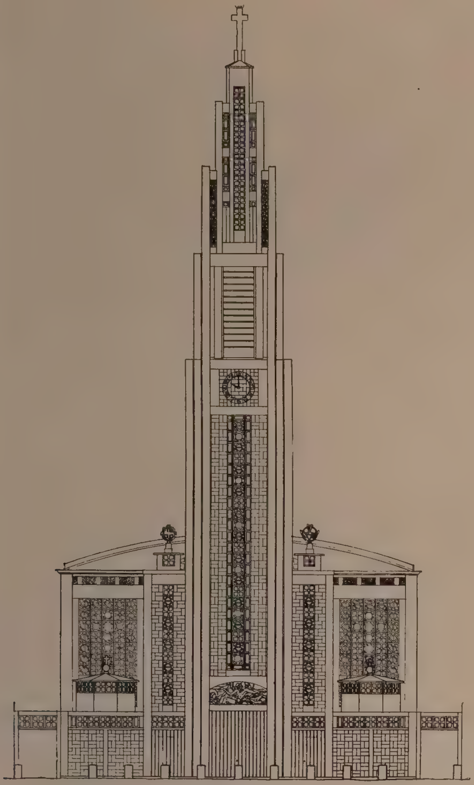
Main Façade

CHURCH OF NOTRE DAME AT LE RAINCY, SEINE-ET-OISE, FRANCE

A. & G. Perret, Architects

out superfluous elements was shown many years ago in their Théâtre des Champs-Elysées.

Here at Le Raincy, just as in the older churches, one material has been used. The structure has been kept evident and independent of the filling-in elements, and the plan is that of the traditional church with the nave and two side-aisles. The entire building is vaulted. There is an immense area of glass, almost a continuation from where the Sainte Chapelle left off. Yet while all these characteristics are essentially the same as we find in the Gothic churches, the result is quite different because the one material used, instead of being stone, is reinforced concrete throughout: concrete without any facing of stone or marble, but left as it was when the forms were removed so that the lines formed where the different boards met are plainly evident, and help to give a texture to the surface.



Main Elevation
CHURCH OF NOTRE DAME AT LE RAINCY

This material, while a logical modern one, might not have been used in this case where the work is monumental had it not been for two important considerations. In the first place the budget was small. The whole building, including heating, ventilation and decoration only cost 600,000 francs. The other condition was time, and in this the choice of material was justified, for the church was built in a little over a year. Had stone been used the time would have been at least doubled. But once having chosen concrete, the architects proceeded to use it logically.

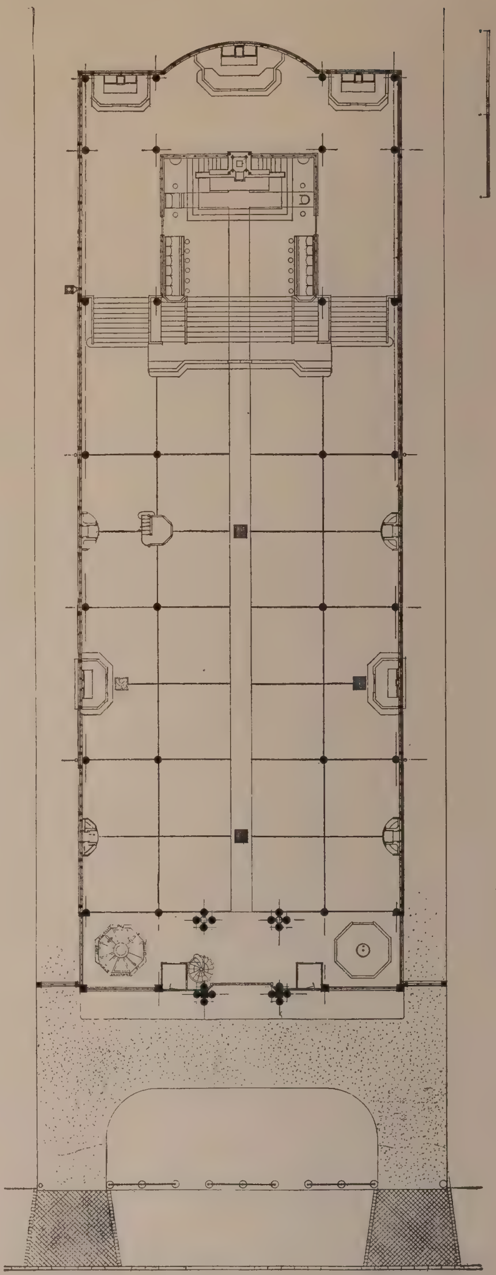
The system of vaulting is simple both in appearance and construction. The central nave is covered by one continuous barrel vault, while the side-aisles have transversal vaults coming into the main vault at a lower level, so that instead of intersections small tympanums are left over each column, which act to emphasize the points of support. Over this whole system is the roof, which is clear of the inner vaulting and is made up of smaller vault-like ribs running transversally across the building. Truss reactions are formed by the connection at various points of this outer covering with the interior vaults. It is in the roofing that allowance has been made for contraction and expansion due to changes in the weather.

While in the Gothic structures the vaulting demanded great piles of masonry to take the weights, and buttresses to resist the thrusts, in this case the vaults of concrete are so light that slender columns take all the stress and strain. These columns, which are a little less than 17 inches in diameter at the base and taper slightly towards the top, are about 35 feet high. Their lightness has been even further accentuated by the channelling of their surfaces; they are without caps or bases, for neither seem to be necessary from a constructional point of view.

This whole system of vaults and columns is a unit in itself, a reinforced concrete framework quite independent of the walls; in fact, there is an actual air space between the outer columns and the walls.

The walls with their immense areas of glass are the most interesting part of the church, for they accomplish what had been the object of centuries of church building, the opening up of the walls for more glass area and less stone surface, an effort which is most nearly satisfied in the Sainte Chapelle. In fact, Le Raincy has been called the Sainte Chapelle of reinforced concrete, because of this characteristic. The windows, or rather the walls, as there are no enclosures to mark window openings, are constructed entirely of concrete blocks cast in five different patterns, the cross, the square, the circle, the triangle, and the oblong. These with coves around their edges, have been laid up like bricks. With these five units arranged in different groupings, the architects have been able to obtain a variety of pattern and a rhythm of spotting which is most effective, yet at a minimum of expense, as the effect depends on a few simple elements cast in as large quantity as desired. These same units have been used throughout wherever decoration or openings were needed; not only do they form the walls, but they are used for the altar railing, for the communion table, for the *ciborium* and for the openings in the vaults. Incidentally, these perforations in the vaults—which at the same time are quite decorative—were really formed for the practical purpose of absorbing sounds which might otherwise reverberate too much where all the surfaces are of concrete. They are backed up with heavy stuffs.

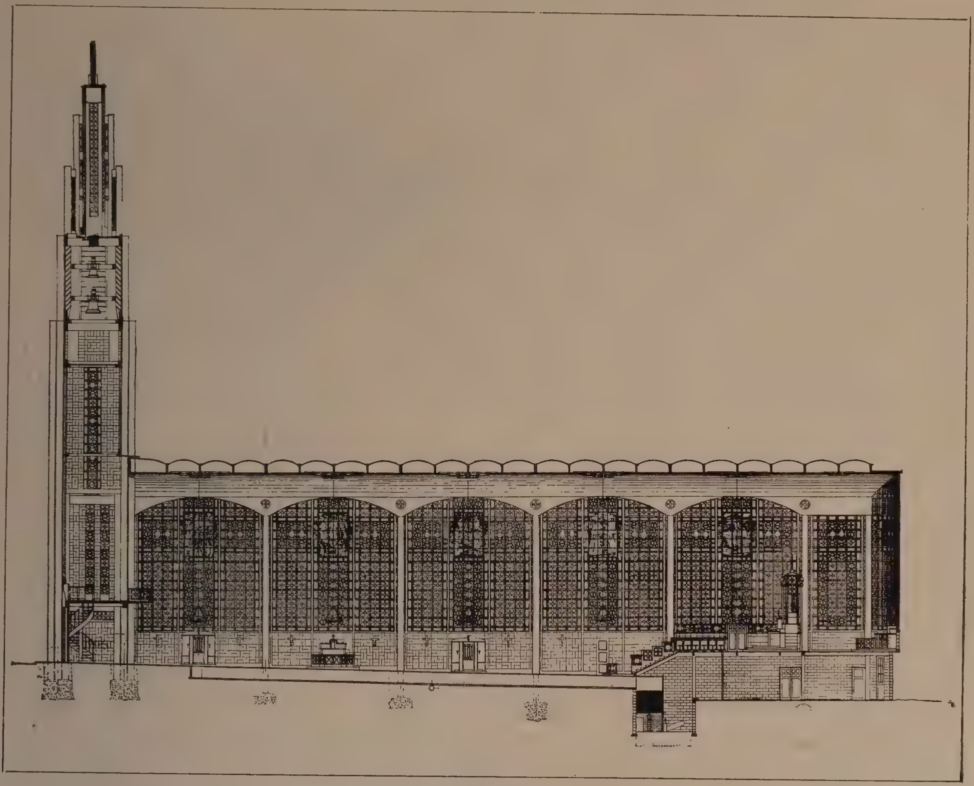
Naturally when there is so much glass surface the handling of the glass itself becomes of prime importance, and it has been done with the greatest care and subtlety, with the result that the light which floods the church at all times is astonishingly effective. In fact, it is so essentially a part of the whole effect that it is impossible to judge the atmosphere created when one can merely see black and white reproductions. The colors of the glass nearest the entrance are of a general yellow tone, and as the windows approach the altar the colors become deeper, going through the oranges, the reds and violets and ending in blue for the space around the apse. This blue,



Principal Floor Plan
CHURCH OF NOTRE DAME AT LE RAINCY
A. & G. Perret, Architects

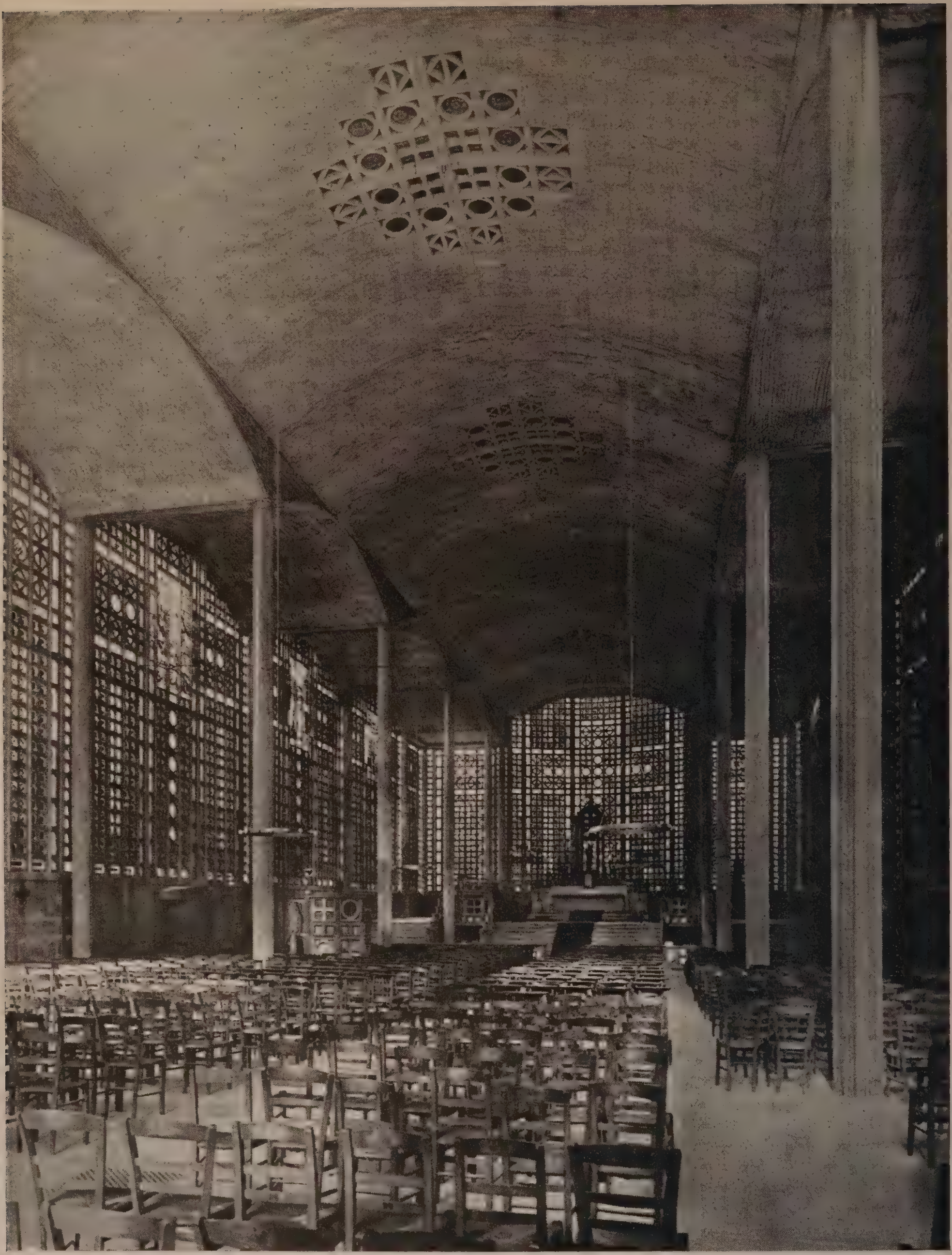
with accents of red and violet interspersed, has the depth of a clear night sky. This, with the large pattern of a cross showing directly behind the altar, forms a solemn background for this most sacred part of a church.

The windows along the sides, in their turn, have the individual units so arranged that a cross appears in the pattern of each one, while at the center of the cross is a decorative panel of glass, the panels representing not only biblical scenes but also scenes inspired by the Great War. The church is really dedicated to Nôtre Dame de la Marne, and is commemorative of the victory of the Ourcq which was fought near Le Raincy and was one of the earliest phases of the battle of the Marne. The panels are by the well-known painter, Maurice Denis, and while they are now only paintings on glass, "maquettes" which it is estimated will last for twenty years without material deterioration, they will be replaced from time to time as money becomes available by the real stained glass of the same designs.



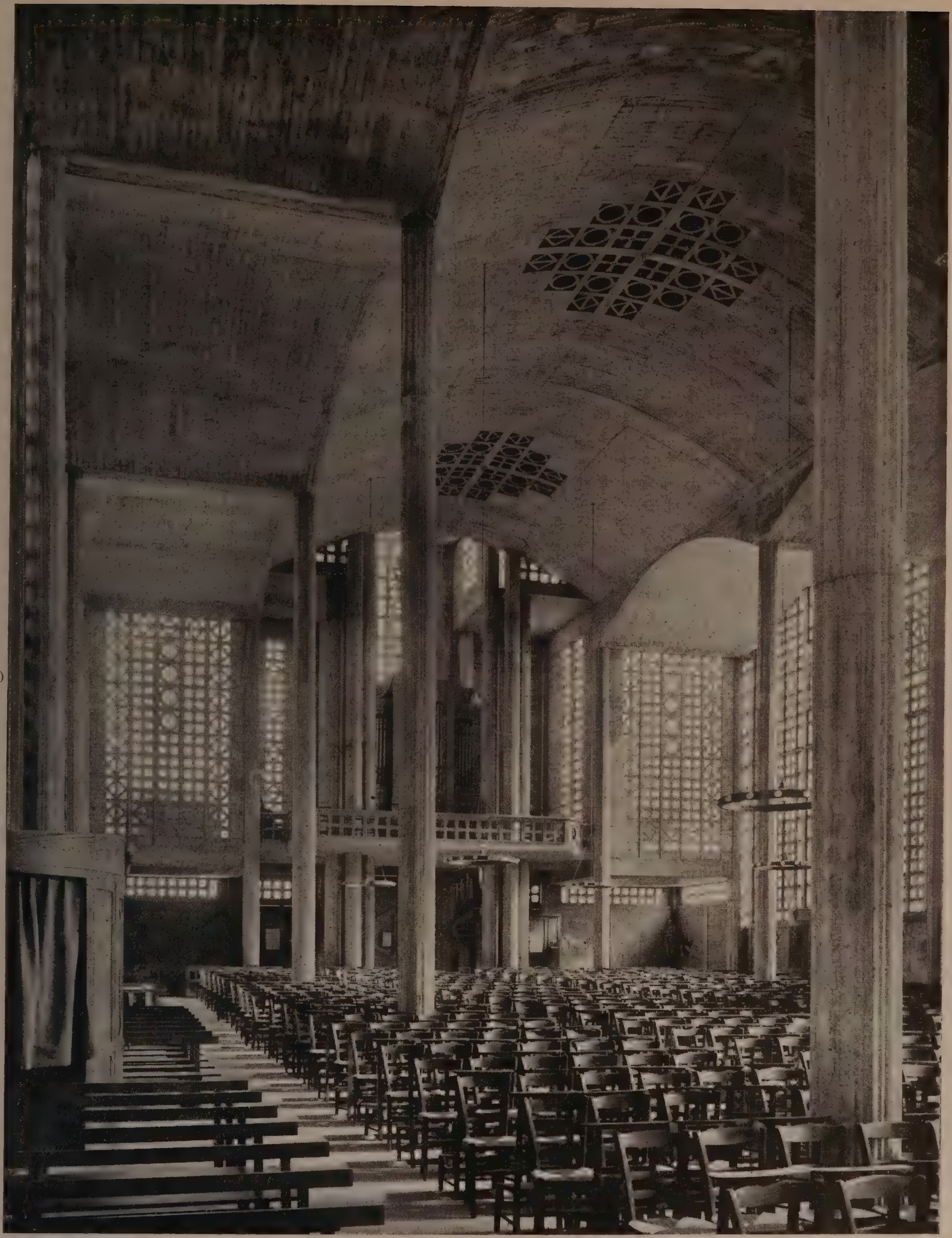
Longitudinal Section
CHURCH OF NOTRE DAME AT LE RAINCY, SEINE-ET-OISE, FRANCE
A. & G. Perret, Architects

While the plan of the church follows the traditional arrangement in a general way, there are variations which are quite interesting. In the first place there are no transepts, probably because, lacking both time and money, it was necessary to do everything possible to simplify the scheme. Another departure is in the arrangement of the floor and the altars. This is the result of the fact that the ground, having once been the site of a quarry, was sloping, and to have leveled it off would have entailed the expenditure

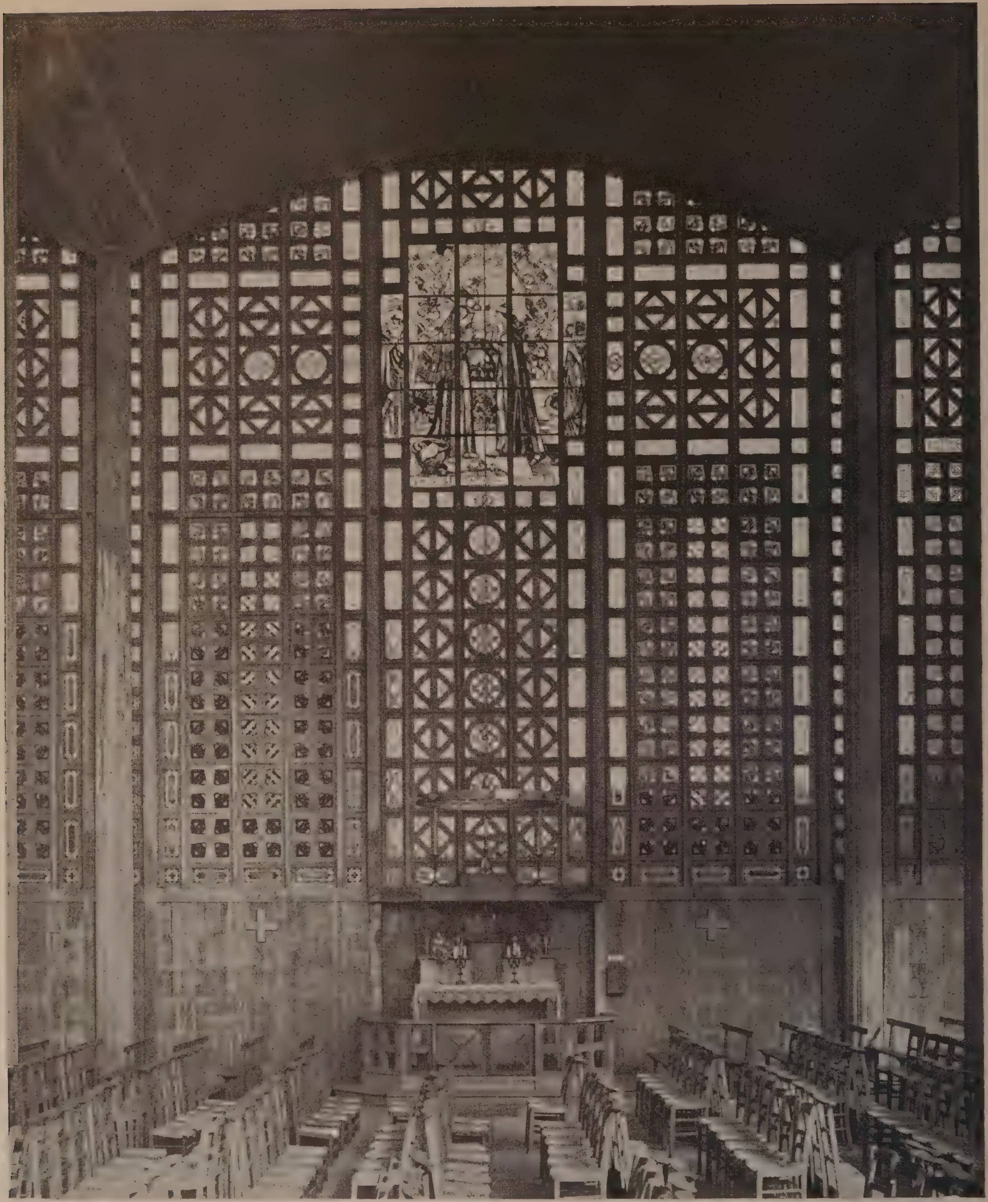


The Architectural Record August, 1924

Looking towards Apse
CHURCH OF NOTRE DAME AT LE RAINCY, SEINE-ET-OISE, FRANCE
A. & G. Perret, Architects



Looking towards Tower
CHURCH OF NOTRE DAME AT LE RAINCY, SEINE-ET-OISE, FRANCE
A. & G. Perret, Architects



The Architectural Record *August,* 1924

Detail of a Side Bay
CHURCH OF NOTRE DAME AT LE RAINCY, SEINE-ET-OISE, FRANCE
A. & G. Perret, Architects

of too much money. Fortunately the high point was at the street, and accordingly the architects turned the situation in their favor by sloping the floor of the auditorium and, in addition, by raising the whole altar space or apse floor some ten steps above the floor of the nave. The space under the apse then became available for the work rooms, the sacristies, the offices and the catechism or Sunday School room. These rooms are reached by two stairways leading down from each side of the main altar, an arrangement which makes the management of the services very convenient. These rooms may also be entered from outside by passing down the alleyways on each side of the church.

By such changes from the usual church forms, a practical auditorium has been created, for with the slender columns and the height given to the platform of the apse by its elevation and also by the slope of the floor, not only is the high altar raised to an imposing and religious position, but it becomes possible for each person in any part of the church to see the service without difficulty and to follow the ritual. This seems quite in keeping with the religion of today, when everyone can read and therefore is able to follow the service and become more a part of it than in the days when illiteracy was the rule. In the same way the illumination of all parts is more essential today than when a certain dimness and mystery moved the parishioners to worship. It is all a recognition of the progression from the purely emotional to the more intellectual attitude toward this as toward other subjects.

While there are the customary secondary altars on each side of the high altar, there are only two chapels, which are really not chapels in the true sense of the word; they are to the right and left as one enters, one being for the baptismal font and the other being a memorial to the "Morts de la Guerre" They are simple octagonal spaces without decoration other than architectural forms. The octagonal cupolas as well as the chapels themselves on the exterior become essential parts of the composition.

An independent structure, the tower, 140 feet in height, is quite free from the rest of the church. In appearance it is like nothing that has ever been done before, and yet it has much the feeling of the Gothic towers and achieves a real majesty that is quite effective as the successive stories recede toward the cross which tops it all. The corners of the tower are interesting in that they are formed by groups of piers, the number of piers diminishing as the tower rises so that there is the logical change from a heavy base to a lighter top. Each pier is of the same size, so that the scale has been more nicely preserved than if the lower ones had been replaced by a single pier of equal structural value.

On each side of the bell tower is a minor tower, not as a support but as a necessity on the interior to provide space for a gallery and organ loft and on the exterior as a part of the composition in tying the tower in with the church.

The entrance doors themselves have been kept extremely simple, and while they may look a little severe in the photographs they have been kept that way in order to form the greatest contrast for the sculpture which is to be placed in the tympanum over the central doorway. This decoration has already been designed and is also to be in cast concrete with very bold lines and sharp relief. The subject is "Christ being lifted from the cross," and is the work of Emile-Antoine Bourdelle.

Whatever may be one's attitude to the design as a whole, it must be admitted that this church is a real point of departure and marks an important step in modern architecture. The application of the crudest modern building materials to the needs of a building which is not only monumental but should also be majestic has been accomplished, and while some tastes might wish to soften some of the rigor of the effect, the fact that the architects by conscientious and honest thought have produced something logical has greater value in architectural history and progression than any building following the usual formula and treated with delicate ornament could possibly have.

LOW RENTAL HOUSING
SUBURBAN TYPE

By
Frank Chouteau Brown

Part I

We have now given some consideration to the problem of providing housing on a basis making a low rate of rental possible, under the crowded conditions obtaining in our larger centers of population. We have discovered certain economic factors that seem to be working more and more certainly to raise the cost of such housing year after year. We have also found that we are ourselves responsible for imposing certain arbitrary restrictions that also go toward increasing this cost, especially the numerous "Housing" or "Tenement House" laws, and the restriction of immigration. The latter will probably never be changed to such an extent as to alleviate either labor or living costs. The former we may possibly expect to see somewhat modified, once public opinion has been reached, to a more intelligent and helpful basis, helpful both in lessening costs of construction for low rental structures, and also in assisting to secure more sanitary and healthful conditions surrounding our low paid labor housing, instead of acting—as it does at present—as an actual embargo or preventive of better living conditions or the securing of new and more modern types of workingmen's houses.

One factor in alleviating conditions and securing more available housing accommodations, that was already in actual process of natural operation in our larger cities, had been found in the evolutionary progression of numbers of families from the more crowded portions to the suburbs,—moving from older sections to newer built-up portions through the desire for larger quarters, or for residence in a better or more suburban locality.

The practical result of this gradual migration has been to make available for lower grades of occupancy the dwelling accommodations that have thus been abandoned by the class that formerly inhabited them. This process is in constant operation; is a natural one; and, so far as it goes, should prove of certain benefit to the situation.

The difficulty is that, while natural—requiring no artificial stimulus or legislative action for its progress—it is nevertheless too slow in movement to meet the constantly increasing demand for more low-cost dwellings,—which increases much faster than this or any other natural process can produce any available supply. Also, as we found to be the case last month, these abandoned habitations are not left in a form best adapted to meet the differing needs and requirements of the new class of occupants; and so, in the present process of readjustment, hampered as it is by both "Building" and "Housing" laws as they now exist on our statute books, the very inheritance of this class of housing merely continues to increase the conditions of crowding in sleeping accommodations, while helping to provide more sanitation and better conditions for cleanliness.

Therefore we are forced to look about, in the endeavor to discern in what other directions we can expect to find assistance in still further ameliorating the situation. And again we do not find the outlook any too encouraging. There does exist, however, another line of progress, along which we can already discern that a certain movement has occurred. And it is possible, with a little intelligent appreciation of its potential further benefits, that we may be able to make an increased and more intelligent use of this movement, and the opportunity that it presents may be still further developed and widened.

Labor divides into a great number of classes. Some trade divisions must, from their very types of labor, remain indissolubly contained within the larger community aggregation, because of the fact that the very need of their form of labor has its origin within this large community. In theory, it is perfectly possible to find housing accommodation for this class of labor in the more suburban limits of the large city,—but as a matter of actual practice it remains a fact that this type of labor does not easily gravitate to these more remote sections, but of natural preference stays in or near the congested heart of the metropolis, from which crowded sections it has in the past been found either difficult or impossible to remove them. Even the Italians, whose women folk make a daily habit of pilgrimage from the city dwelling sections where they reside to the outskirts where they may cultivate plots of ground available for the type of intensive market gardening in which this race seems so naturally skilled and successful, by preference continue to live in these same over-crowded sections. They work in the country but insist on returning to the crowded city centers for the night. Many attempts have been made to allure these very families to reside in houses more conveniently arranged and with cheaper rents in the suburbs, and except in a few isolated instances, without success. And when success has been had, the ultimate outcome has been merely to start another slum nucleus, and the ample rooms or houses are soon as crowded as the most congested section of the larger city from which their inhabitants had come. Only thus do they seem content.

There are other labor trades that are required in the country as well as in the city,—and this includes all the building trades—so that a certain proportion may at least be distributed with equal convenience to its members between city, suburb and country, according to the demand that may exist. Heretofore it has been a fact, however, that the greater need —and therefore the greater pay—seems to cause the larger number to remain by preference in the cities,—even when they have often to journey well afield for a considerable part of their employment. And yet a change is beginning to operate within this particular group of building trades—which, of course, by the way, no longer falls within the class of "low-paid" labor at all. The "laborer" or "helper" class has already practically disappeared. It is almost entirely a "skilled group" now. Machines, such as "pumps" and "steam-shovels" and "concrete-mixers" are rapidly taking the place that was formerly supplied by "unskilled labor."

This change is motivated exactly as in the wealthier classes, and as a considerable portion of the working class in America is content to have as its principal ambition the close imitation of the wealthier classes, it would seem that we have every reason to anticipate that it will probably continue to operate in exactly the same manner,—and the instrument that we can confidently expect to help out in this situation is the automobile —in this particular case, perhaps the "flivver"—aided and abetted by the "radio" and the telephone.

Other means of communication and transportation having never been successful in persuading the workingman as a class that the suburb was as convenient and accessible for living as the crowded city; it remains for the ease and comparative luxury that follows the possession of an automobile to convince him of this fact, —just as it has a little earlier convinced the wealthier classes of the desirability of living for the major part of the year in the country and coming to the city only for a part of the winter months. And so the mason, the carpenter or the plumber have found that the possession of an automobile for use during the week as a business accessory and during the Saturday and Sunday holidays as a means of

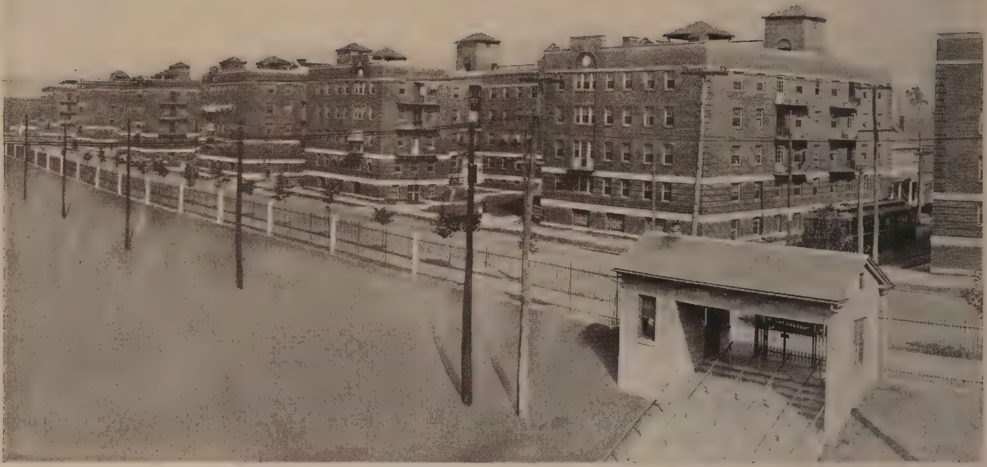


Fig. 20—Panoramic View—Left Half
APARTMENTS FOR SHIPBUILDING HOUSING CORPORATION, NEWPORT NEWS, VA.
Francis Y. Joannes, Architect

pleasurable relaxation, is better and more easily managed if he removes to a suburb, where a garage can be built on a corner of his lot, and then transports himself wherever his work may call,—and the extra radius of activity provided by the automobile is an added argument urging him to the change. So in this group of skilled labor, at least, we are already experiencing a movement that is bound to extend more and more and to make its influence felt during each coming year. Here lies the largest untapped field for the exploitation of the Ford salesman, as well as the salesman for the huge "used car" product,—which is now so much a problem that it is damming up the progress and development of the entire automotive industry.

Finally, there remains another class of labor that is dependant on neither city nor country, but can find its output of value only in certain factories or mills, and so will go wherever the demand for its labor exists.

Here we can find at our hand a natural law, in the operation of which man can himself exert an unobtrusive and intelligent direction. And its practical working has already been well proved by successful experiment in other and equally crowded sections of the old world. To name but one of the many well known examples. Port Sunlight, a few miles inland from the port of Liverpool, was first started as a new and arbitrarily selected location for the factories of "Sunlight Soap." Labor difficulties, "turnover," etc., had become a marked factor in the administration of the factories in the old locations, where they were placed among other factories, in crowded city sections where labor was to be found in huge supply. Therefore, when the time came to enlarge the buildings, it was found land values were too high to make it advisable to try and continue in these urban locations, and so a removal of the entire plant was planned to a conveniently located point near transportation, shipping and freight facilities. Not only were factories built, but also housing

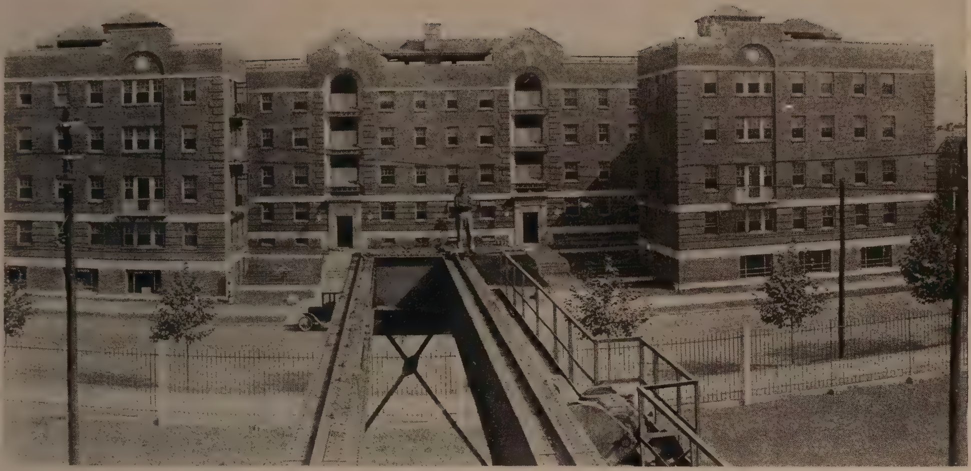


Fig. 20—Panoramic View—Right Half
APARTMENTS FOR SHIPBUILDING HOUSING CORPORATION, NEWPORT NEWS, VA.
Francis Y. Joannes, Architect

accommodations of a type that the owners believed would help make their employees contented and happy, and therefore remain more continually in their employment.

In order to broaden the foundation and make it still more permanent, other factories were encouraged to locate on sites that had been set aside for that type of development in the new suburban town plan, thus providing employment for other members in the families of those employed in the original works, and at the same time occasion was made to relieve the householders of all feeling of being at the mercy of their employers for the occupancy of their homes. It is at this point that most American ventures along similar lines—such as Pullman, Ill., —have failed; so the scheme of organization of these successful foreign ventures is worth the brief retelling. Shorn of all its foreign and strange phraseology, the scheme comes down simply to this.

The employing companies bought and owned the land occupied by the entire township. It turned this ownership over to a corporation, managed by trustees, in which the actual individuals owning the property did not too obviously appear. After having set certain portions of the site aside for store locations, schools and church sites, parks and play grounds, community buildings, etc., the remainder was developed by still other associations, in which the occupants of the houses to be built were required to buy a small interest, so that they might feel themselves the actual owners and directors of the enterprise, as well as those who would control and direct it after the houses were built and occupied by them. The houses were built by other organizations and either leased for a term of years or sold on leasehold (a form of property conveyance very common in England, consisting of selling ownership for a definite number of years, ninety-nine to several hundred). The purchase price was always divided into a series of weekly or monthly payments, so worked out as to cover cost of land and buildings, insurance for buyer

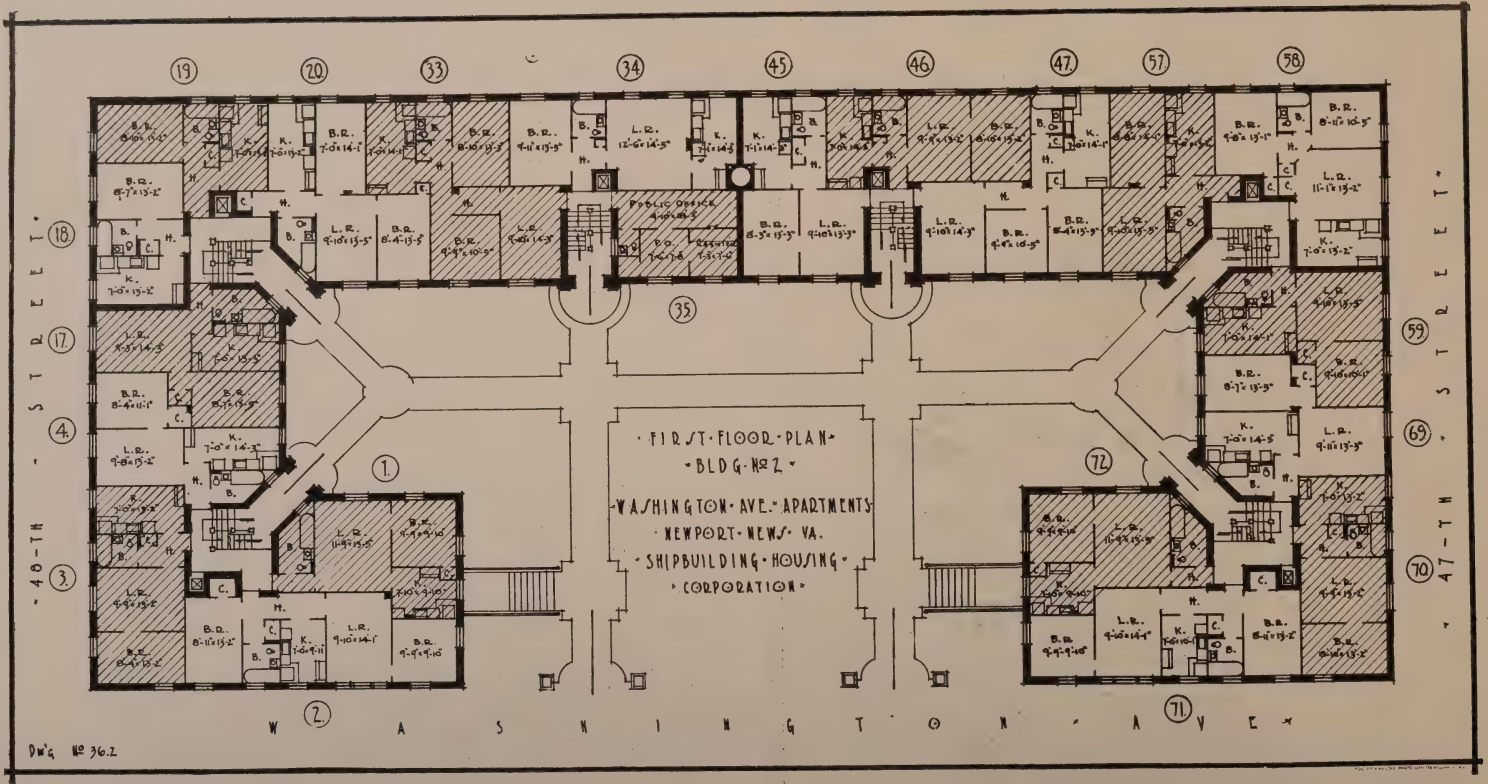


FIG. 21—APARTMENTS FOR SHIPBUILDING HOUSING CORPORATION, NEWPORT NEWS, VA.

Francis Y. Joannes, Architect

(in case of death, protecting his family in the ownership of the home) membership in community building, library and community interests, generally covering taxes and usual charges, so that any employee could directly feel all the benefits of actual independence and ownership in the control of what thus became his own property.

All over the Continent the success of this type of venture has been so notable that it has formed the basis upon which all the forms of community, city or national housing development that have latterly been attempted, have been undertaken. So far, however, this form of housing development has been neither common nor successful in this country. Where attempted, it has not been upon the necessarily broad basis that has alone made for its success and permanence abroad. A few individual factories or businesses have intentionally removed to suburban localities. A few more have built houses for their help. (This was often done in the case of some of the earlier textile mills in New England.) But they retained ownership in these homes direct, and in case of a desire to change to another employment or go on strike, it was common to immediately evict the occupants, so that the families occupying these company houses could never feel any independence or proprietorship in them.

They were, besides, generally lacking in all interest of appeal, being bare, baldly practical, and seldom having any planting or playground conveniences to add to the pleasure of their occupants. No Continental experiments along this line have ignored attraction as an element in the success of their venture. The houses are planned and built to avoid monotony; planting is done, gardening encouraged by prizes, cinema halls erected and run, along with schools and playgrounds, and always a suburban attractiveness is ensured by not allowing over ten houses to be built to the acre of land area.

One reason for the failure of this type of civic improvement to appeal to the American business man resides in the fact that it provides him no opportunities for quick appreciation of the money invested, nor any hint of the gambling appeal that he is accustomed to find in his other forms of so-called "investment." It belongs to the "safe and sane," and "slow and sure" class, in which he will probably be frank to confess his lack of interest. On a strictly business basis none of these English companies has shown a return of over two to two and a half per cent. to the original or holding company. (Often the building or development organizations—in which the same men are generally interested,—concerned with the building and rental of the houses, are based on a four to six per cent. net return.) Over a period of years, however, the appreciation of the property over and above its original cost in large tracts, plus the cost of its opening, laying out and development, manages to make up a good profit—in addition to which the manufacturers concerned figure they make an enormous saving in labor turnover alone,—quite aside from the savings made in the cost of the land and buildings necessary for their own factories, the latter increased by the fact that they can build over larger areas of cheap land, so making lower buildings, cheaper to build and easier to operate, with more light and air to benefit their operations and their employees.

In the case of those few American ventures where individual factories have restricted the whole undertaking to their own concern and its employees, they have had to carry the housing part of the operation at an enormous loss on their books, or write it off year after year; and with the outlet of the area so restricted in its interests they can not expect land values to appreciate so as ever to recoup this loss,—as in the case of the larger aggregation of interests involved in the English venture, on the basis that has just previously been described.

To mention the experience of a single manufacturing plant in Massachusetts, for instance, one of the first to undertake to make this move to a small town, and provide homes for its employees. Started over a dozen years ago, with houses of a distinctly better average of architectural design than was then common, the stand-

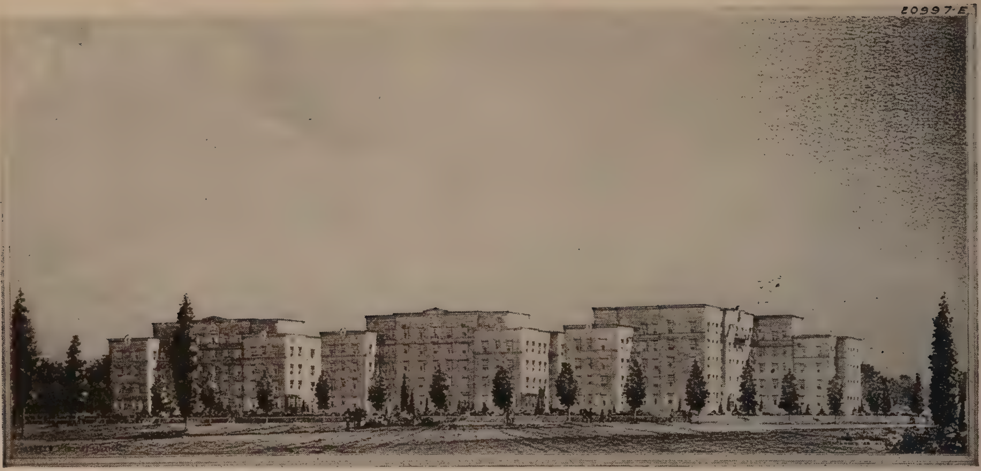


Fig. 22—Elevation

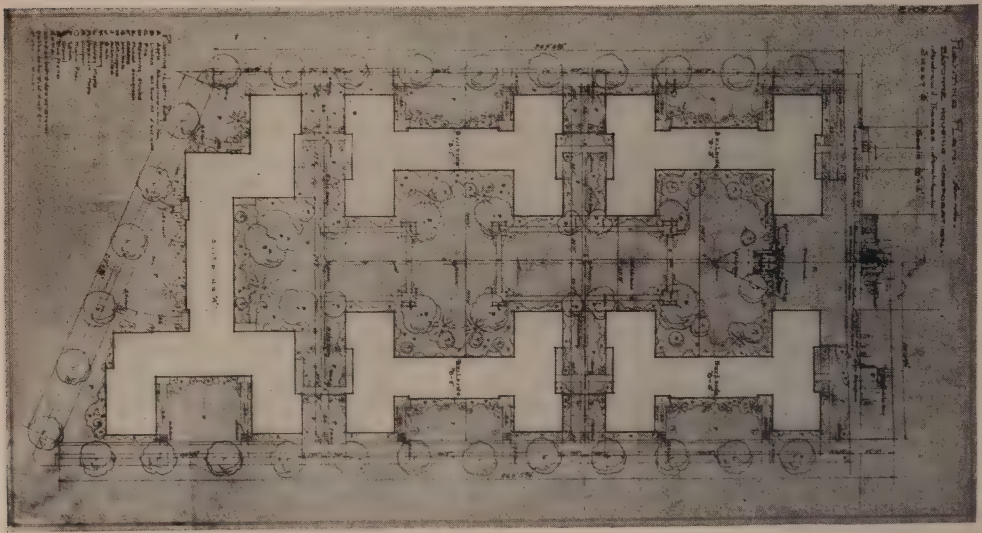


Fig. 23—Plot Plan

APARTMENTS FOR THE BAYONNE HOUSING CORPORATION, BAYONNE, N. J.
Andrew J. Thomas, Architect

ards of rental prices then established have had to be maintained at substantially the same rates down to the present day. Even at the original rentals they did not pay any real investment return on the cost of the housing,—and as new houses have been required they have been built from time to time, at constantly rising cost prices, ever since. The most recent examples, while of the same plan arrangements and sizes as those first built, now require several times as much money to pay for their construction,—while as the rental of the new house is for the same class of occupancy, only a very little more can be charged than in the case of those originally built, so that the corporation can only continue to house its labor adequately on the basis of accommodation originally established, at a heavier and heavier cost from year to year.

Most of our own attempts in this direction have been with the small or semi-detached house; just as, abroad, most of the housing of this type has been in the grouping of single house units into rows of greater or less length. Nevertheless, some few Continental housing developments have been laid out into apartment buildings of a class comparable with those that have been more usual in this country, and this is particularly true of many of the more recent developments, especially those undertaken by the various municipalities in Belgium, Holland and England, in which we will later find many of our most suggestive and adaptable ideas.

In North America we have some examples of more or less interest, and one or two projected plans that have not yet materialized in execution. Among these are the two projects illustrated this month.

When, during the war, our Government undertook to go into the housing business, it was so necessary to obtain immediate results that it was found impossible to consider the matter of cost in any way, nor was it always possible to lay out the project with sufficient care to produce the eventual results that we would now most desire. Always, expediency and the need for haste were placed before everything else,—and while we must recognize that many mistakes were committed under these necessitous urges, these various housing enterprises have, nevertheless provided us with one or two examples of plan experiments of which we are so sadly in need in this entire field of low cost and rental housing.

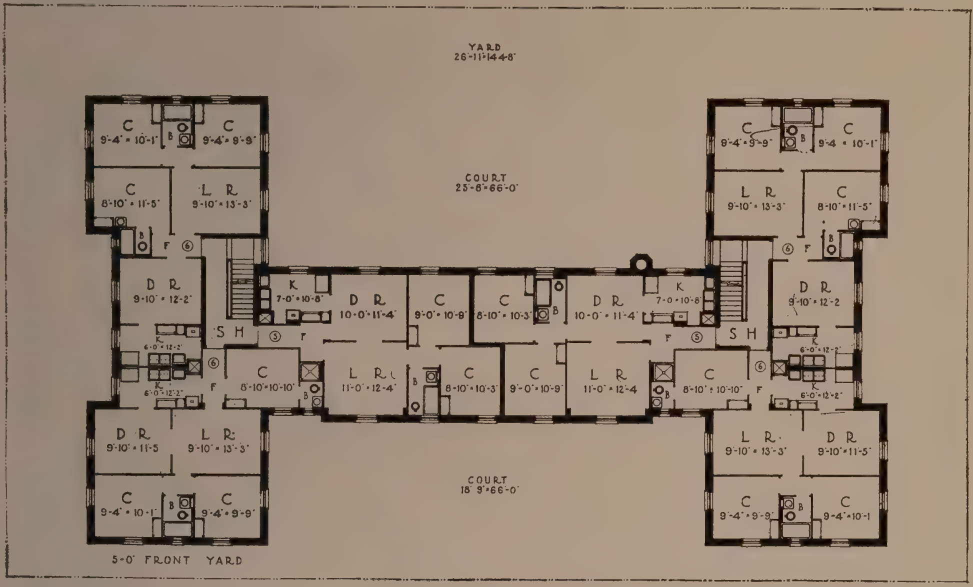


Fig. 24—Typical Floor Plan

APARTMENTS FOR THE BAYONNE HOUSING CORPORATION, BAYONNE, N. J.

Andrew J. Thomas, Architect

We find that little experiment was made in the matter of better tenement housing. In most of the war-housing developments the emphasis was put on the individual house, semi-detached, or in rows. Occasionally, and most incidentally, we may find a tenement or two, merely because they did not know what else to do with the upper part of a building given over to store purposes,—but there are to be found one or two marked exceptions to this general rule. And one of these is in Newport News, where one of the most important shipping industries was located —though even here the lower paid labor came generally from the colored slums—

but it was necessary to find accommodations for the less well paid whites, as well as for the more skilled workmen, and so we find a certain value in the several large four-story buildings in which were grouped a large number of living apartments, the plan of one of which is shown as Fig. 21 and a panoramic view in Fig. 20.

Here we have a plan of the "open court" type (partly closed) including twenty-one apartments upon the floor. Of these twenty-one, four are grouped around three of the corner stairways, three around another, and three are reached from each of the inner staircases; while two are of two rooms, thirteen of three rooms and six of four rooms. All six staircases are inclosed within fire walls and the building is divided by fire walls into four separate sections.

Four buildings were built in Newport News on this plan, each on lots of 100 by 200 feet area, and it will be noticed that the "Open Stair" idea was incorporated into these plans, in order to obtain the fullest possible benefits of cross draft, which it would otherwise have been impossible to secure for the smaller apartments in the corners, and the apartment confined to one side of the building on each of the center stairways. But little use is made of the stair wall for lighting and ventilation of rooms or toilet compartments.

The courtyard is about thirty feet wide by one hundred and twenty feet long; the building about eighty-eight feet deep over all, and it covers almost exactly half the area of the land on which the building is placed, with a total capacity of eight-four apartments in the whole struc-

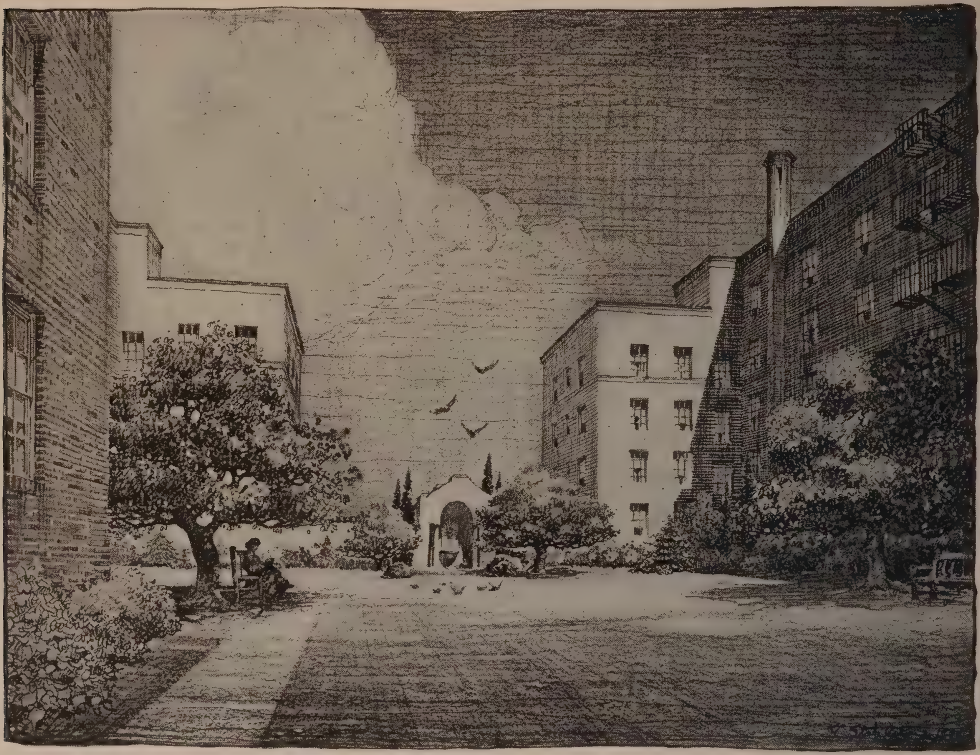


Fig. 25—View in Courtyard
APARTMENTS FOR THE BAYONNE HOUSING CORPORATION, BAYONNE, N. J.
Andrew J. Thomas, Architect

ture,—or sixty-seven rooms to the floor (excluding bathrooms) and two hundred and sixty-eight to the four floors. It should also be noted that all the kitchens are intentionally too small to be used for eating or living purposes.

Another example that has been selected for illustration this month is of the group of housing units that is now being undertaken at Bayonne, N. J., (Figs. 22 to 26 incl.) This particularly illustrates several of the points that we have been making in this series of articles. It shows that industrial interests in this country *are* becoming concerned in the problem of properly housing their employees,—and, at last, in something approximating the right manner. For this work is to be undertaken by "The Bayonne Housing Corporation," an apparently disinterested organization,—although no attempt is made to conceal the fact that, along with a number of individuals in the community who have bought stock in the corporation, such local business concerns as the Standard Oil Co., Tide Water Oil, Vacuum Oil, Babcock and Wilcox Co., Pacific Borax Co., International Nickel and the American Radiator Co., have all an important connection with the enterprise. The very fact that there are so many concerns interested, however, is at once the protection of the tenant from undue pressure such as he might fear from the direct ownership of any one employing concern.

Before undertaking this development, however, it was necessary to obtain certain amendments in the tenement house acts of New Jersey covering provisions that had hitherto existed to penalize low cost construction, and thus make low rentals of new property impossible. The law has been amended this spring so as to better protect tenants of this type of dwelling construction from fire risk, to require wider courts and hence lighter rooms, while at the same time requiring fireproof stairways, and removing unnecessary restrictions on construction that were at once adding cost and preventing exactly such developments as this from getting under way. This change was enacted in March. Now this project, as here illustrated, will provide a local illustration that should show the way for other ventures of similar type.

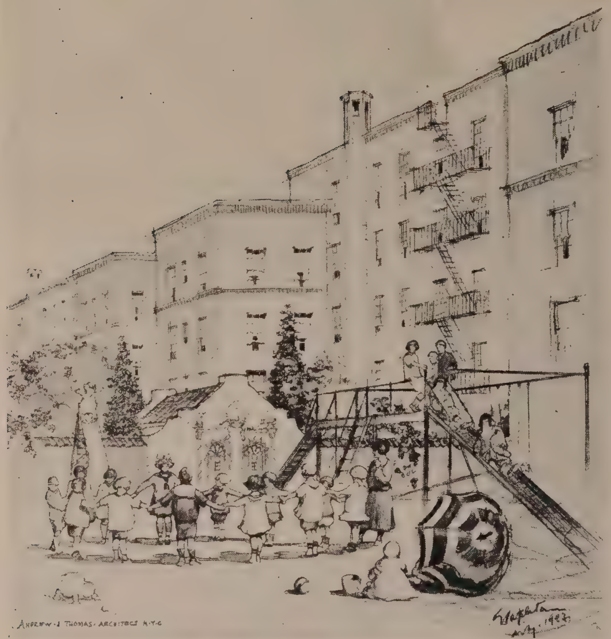
Until these buildings have been completed, it will not be possible to speak authoritatively as to the exact rentals that will be placed upon the apartments. It is expected, however, that they will be built at a price that will make their rental possible on a basis at least as low as the Metropolitan Life buildings in New York, and even, it is hoped, a little lower.

Advantage has been taken of the lower land value to base the whole enterprise on a more open and unrestricted plan. Here only one-third of the land area (35.5% to be exact) is to be covered by the buildings, leaving nearly two-thirds for lawns, gardens and playgrounds. The entire site covers about three quarters of a city block, with five apartment buildings containing 150 five and six room apartments, each with bathroom, living and dining rooms. The plot plan, Fig. 23, shows a large interior court 340 feet long by 52 feet wide, from which open the courtyards between the wings of the buildings, which are 66 feet wide and increase the width of the main court to 105 feet at these points. There are also 24 feet between the buildings, in each case.

The appearance of the building group has been much enhanced by the architect seizing the opportunity presented by their suburban location both to arrange the entire grouping into a single composition, and also to vary the skyline by carrying the central portions of the units to a height of five stories, leaving the wings of four stories high,—as well as by the *chiaroscuro* obtained by advancing the wings of the elongated "H" shaped units nineteen feet beyond the main face of the structure, the resulting forecourt also providing opportunity for an enhancing planting and landscaping setting for the group of buildings, Fig. 22.

Reference to the detailed plan, Fig. 24, shows that each floor contains four apartments of six rooms and two of five, grouped around two staircases. The four larger apartments all have three exposures, the two smaller ones two, with direct cross draft,—while the unusual openness of the unbuilt area ensures exceptional sunlight, air and outlook at all times. One end of the large courtyard is to be equipped with a playground for children, with comfort station, to keep the tenants' youngsters from the dangers of the streets and public playgrounds.

The whole presents a significant attempt along lines that are hopeful of result. Despite the fact that the size of the apartments indicates that they will have to be filled by a fairly well paid class of skilled laboringmen's families, every wish should be expressed for the successful outcome of the experiment, in order that it may prove the possibilities of the direction towards which it points, and inspire others to undertake similar ventures upon a slightly less pretentious basis, so that the conditions surrounding a still lower-paid class of laboring men will also be improved.


ANDREW J THOMAS ARCHITECT N.Y.C
1923

Children's Playground

FIG. 26—APARTMENTS FOR THE BAYONNE HOUSING CORPORATION, BAYONNE, N. J.
Andrew J. Thomas, Architect

RUSKIN AS CRITIC OF ARCHITECTURE

By Charles H. Moore

The vogue of Ruskin, as a critic of art speaking with authority, which was well nigh universal in England during the second half of last century, no longer prevails. His books are now little read, and his judgments of art are generally discredited. But while there is much to justify the popular reaction, it should be realized that it ignores much that is of great importance in his work as a whole. As an impassioned student of nature, and expounder of the art of landscape painting, he was—whatever his limitations—a writer of extraordinary powers; but as a critic of architecture, his writings show him not to have been well equipped. His architectural apprehensions were not grounded on a proper sense of structure, and he had no practical acquaintance with the art of building. It is, however, only fair to say that the same is the case with most other modern writers on architecture. Moreover, when he wrote his principal works, he was immature. He was but thirty years of age when *The Seven Lamps* was published, and *The Stones of Venice* followed almost immediately. In these books he undertook, with youthful self-confidence, to lay down what he considered the laws of design and construction in the art. Of Gothic architecture, which he sought to expound, he had no exact knowledge. Respecting its character he did not get beyond the vague notions that prevailed in his day, and still widely prevail. The monuments of mediaeval pointed building in Europe had not then been examined, and their widely different principles of design and construction discriminated. He made, as we shall presently see, the distinguishing characteristics of Gothic to consist virtually in ornamental features—even structural members being regarded by him as of primarily ornamental significance.

He says, indeed, a good deal about structure, but his remarks on this head are confined to isolated parts—as the combination of the arch and the gable, the pointed arch and the clustered shaft, and so forth. He does not grasp the fact that the composition and shaping of these parts is, in true Gothic building, determined by the exigencies of the total structural system. In discussing these things he makes emphatic affirmations that involve important errors—as where (*Stones of Venice,* Vol. 2, p. 194)[*] he defines a roof as "the covering of a space, *narrow or wide,*" and says:

"It does not in the least signify, with respect to the real nature of the covering, whether the space protected be two feet wide or ten; though in one case we call the protection an arch, in the other a vault or roof . . . The real question is the nature of the curve, not the extent of the space over which it is carried, and this is more the case with respect to Gothic than any other architecture; for in the greater number of instances, the form of the roof is entirely dependent on the ribs; the domical shells being constructed in all kinds of inclinations, quite indeterminable by the eye, and all that is definite in their character being fixed by the curves of the ribs." This is a vague and incorrect description of a Gothic vault, but it will be seen that it quite negatives his affirmation that it does not signify whether the space covered be narrow or wide; for clearly a vault such as he speaks of could not be built over his space two feet wide. Again, in saying that in the greater number of instances the form of the vault is dependent on the ribs, he betrays want of clear understanding, for not only in some instances, but in *all* instances, the form of the Gothic vault is dependent on the ribs—since the rib system is a skeleton to which the shells of the vault have to be shaped. Nor is it the curves of the ribs only that determine the vault form, but their adjustments equally, for in true Gothic vaulting over naves—such as Ruskin here speaks of—some of the ribs spring, of structural necessity, from a higher level than others, with consequent further warping of the vault surfaces, as they fit themselves to the ribs.

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[*] The references in this article are to pages in the edition of *Everyman's Library,* London: Dent & Sons, Ltd.

In discussing the relation of the arch to the gable in Gothic architecture, he is led into error by confounding the merely ornamental association of these features—where the composition is in one plane, as in windows or traceries—with the structural relation of the arch of a vault to the timber roof over it. In the one case, the crown of the arch may reach as far up into the gable as it will go, there being no structural condition to limit the height, but in the other case, the arch cannot rise into the gable at all, because the tie-beam of the timber roof must pass over it. Making no distinction between the two, Ruskin affirms (p. 194) that "the real character of the building, in all good Gothic, depends upon the single lines of the gable over the pointed arch," and gives a diagram (Fig. IX) in which he makes the crown of a vault reach high up into the gable.

On this matter it is important to observe that the merely ornamental combination of the arch and the gable, superficially applied, as we find it in the late additions to the west front of Rouen Cathedral, for instance—from which Ruskin draws an illustration—does not occur at all in the pure Gothic, i. e., the style of the Ile-de-France in the twelfth century and the early part of the thirteenth. It is not found in Senlis or Paris, or even in Amiens or Reims, save as a late interpolation. It first appears, I believe, about the middle of the thirteenth century—as in the triforium of the Choir of Amiens—and marks the beginning of Gothic decadence, when the ornamental idea takes precedence of that of structure, and becomes independent of it—leading to all manner of irrational design.

Not perceiving that the total structural system governs the character of everything in true Gothic building, Ruskin strives to define the nature of Gothic by bringing together and describing the several elements which in combination he fancies determine it. These elements are mainly ornamental, and thus he looks in ornamental details for the formative principles of a great art. He lays more stress on the cuspings of arches and the piercing of tympanums, than on vaulting and vault supports. Not grasping the *raison d'être* of every part of a Gothic structure, in which one thing implies another throughout the entire fabric, he denies that vaulting is essential to Gothic, and discusses isolated features in great detail, with no recognition of the fact that in true Gothic composition every member is a dependent part of an organic whole, shaped, proportioned, and adjusted for its particular function.

Ignoring these things, he declares the elements which make up the Gothic style to be six in number, namely, 1, Savageness; 2, Changefulness; 3, Naturalism; 4, Grotesqueness; 5, Rigidity; 6, Redundance. These elements are, he affirms, named in the order of their importance; thus he makes savageness to be the chief element of the greatest art of the Middle Ages. This can in nowise be justified. There is no savageness in Gothic architecture. To maintain that there is, is to confound the primitive art of the uncultured Northmen, with the perfected art of the same people after fusion with the southern races. The discerning eye will find hardly less of classic than of Gothic quality in the perfected Gothic art. Ruskin, virtually unacquainted with the pure style, and impressed by the rude energy of the Lombard sculpture, which he confuses with the Gothic, speaks of the "rough strength and hurried stroke" with which the workman "smites an uncouth animation out of the rocks which he has torn from among the moss of the Moorland," and contrasts the mediaeval freedom with the slavery which he thinks was the lot of the ornamental carver of classic antiquity—drawing a distinction between Greek and Gothic carving that has no foundation in fact. He tells us (*Stones of Venice,* Vol. 2, p. 145) that Greek ornament is "servile," that it is purely mechanical, and says (p. 170): "The facts of lower nature were disregarded by the Greeks, and their inferior ornament became, therefore, dead and valueless." But not only do the horses and bullocks of the Parthenon frieze show unsurpassed expression of equine and bovine life and movement, but the coins of the British Museum, among many other things, exhibit a wide range of representations of lower animals, including crustacia, of marvelous truth and beauty. While as for leafage, nothing finer, in point of vital truth to nature, than the capitals of Epidaurus, have ever been produced.

In the light of these things, it is clear that Ruskin had no correct knowledge of Greek ornament. Photographs were unknown when he wrote, and the original works of the British Museum and other collections, were neglected by students of art. He presumably got his ideas from the mechanical illustrations of books, in which both ancient and mediaeval art have been grossly misrepresented hitherto. It is strange that he should base emphatic statements on such second-hand information, and say that Greek ornament is "composed of mere geometric forms . . . and perfectly symmetrical foliage, which could be executed with absolute precision by line and rule." The fact is, as the monuments show, that Greek ornament suffers not at all, in respect to vital truth to nature, when compared with Gothic ornament. Even in mere geometric forms, examination will demonstrate that the Greek workman wrought with a free hand, and a keen sense of the asymmetries that prevail in all living things. Of this, the collections of the British Museum afford abundant illustration, not only in the objects to which I have already alluded, but also in the ornamental figures on vases—not one of which will show any exact symmetry or geometric precision.

We may pass over his remarks under the head of Naturalism, because they are covered by what has been said just above.

As for the Grotesque, it is enough to say here that in the pure Gothic style it is introduced sparingly, as in the western portals of Senlis and Paris, and is always restrained in character. Profusion of grotesque imagery, more particularly that which is extravagant and vulgar, is found only in the decadent style.

With regard to his fifth element, Rigidity, Ruskin remarks that the word does not accurately express what he means, but that he cannot find a better. "The feelings or habits of the workman which give rise to this character in the work are," he says, "more complicated and various than those indicated by any sculptured expression hitherto named." It will be noticed that he speaks first of *sculptured* expression—ornamental things coming first in his thought. Yet he shows some recognition of the nature of Gothic construction where (p. 186) he remarks on the difference between it and Egyptian and Greek building. "Egyptian and Greek buildings stand," he says, "for the most part, by their own weight and mass, one stone passively incumbent on another; but in Gothic vaults and traceries there is a stiffness analogous to that of the bones of a limb, or the fibres of a tree; an elastic tension and communication of force from part to part, and also a studied expression of this throughout every visible line of the building." But while this shows some perception of the kind of difference that distinguishes Gothic construction from Egyptian and Greek, it is vague in idea and inaccurate in statement. For the fact is that the more ancient buildings stand, not only for the most part, but altogether, by their own weight and mass; and the stiffness of a Gothic building, resides not in its traceries, but in its supporting members

—which owe their stability to a balance of active forces, in contrast to the inert massiveness of ancient building. Moreover, there is no tension in Gothic construction. Stability is everywhere maintained by compression of the mutually opposing parts. In the trussing of the timber roof, there is tension, of course, but the timber roof is no integral part of the building, it is only a covering for protection. And there is no *studious* expression of rigidity, but a natural expression—which takes care of itself when the conditions of stability are properly met.

In discussing his sixth and last element, Redundance, he remarks (p. 189) that "there is, indeed, much Gothic, and that of the best period, in which this element is hardly traceable, still in the most characteristic buildings, a certain portion of their effect depends upon accumulation of ornament; and many of those which have most influence on the minds of men, have attained it by means of this attribute alone." This is a mistake. The fact is that only spurious Gothic art exhibits this redundance. But unhappily spurious Gothic has hitherto had most influence on the minds of men, few of whom have given the subject of Gothic architecture serious attention, and taken the trouble to learn its true character at first hand. Ruskin was disqualified as a critic of Gothic, mainly because he ignored, as I have said, the structural basis of the art. And this has been the case hitherto with nearly all writers on the subject—Continental as well as English. A notable exception is, however, that of the French master, Viollet-le-Duc—who was the first to realize the significance of structure as the formative principle of every style. He has expounded the principles of Gothic construction with fulness and clearness. He has, however, had few followers. Viollet-le-Duc did not, indeed, perceive the full consequences, as to proper discriminations and classifications of the manifold varieties of the pointed architectures of Europe which he so thoroughly investigated, and so admirably described. While perceiving and illustrating the distinctive nature of the French art of the twelfth century, he does not emphasize its unique character, or claim that it is the only true Gothic style. Late in life, Ruskin saw something of the significance of the French master's work, and once said to the writer of this, that "Viollet-le-Duc has shown the skeleton of a Gothic building to be as wonderful as that of an animal." Had he seen this earlier, his writings on Gothic architecture might have had a different character.

But if Ruskin's limitations as a critic of architecture render his writings on this subject nugatory, the same cannot be said of his work in his own proper field, namely, that of landscape nature. A few words on this work may be useful here. In the field of nature and landscape painting no informed person can question that his powers were of rare quality, and his attainments of wide scope. To the study of nature he was impelled by every impulse of his being, and for the task of criticism he strove, through many strenuous years, to equip himself thoroughly. A passion for the beauty of natural things was more than usually marked in his earliest childhood, and he showed also an early propensity for literary composition, in both prose and verse, with a strong didactic bent. These natural inclinations were encouraged by his parents, and his path was thus made smooth from the beginning. He quickly saw in nature a manifestation of life, and from his first efforts to delineate the wonders of plant growth in the garden at Herne Hill, to the last studies of his old age in the garden at Brantwood,* an expression of the vital spirit of nature is the dominant quality of his work. As he grew older, the best instruction to be had was provided. This was naturally on the lines of the Early English Water-color School, then in its prime, and among the works of this school, he soon perceived the superior quality of those of Turner—which it became the leading object of his life to study and expound. Foreign travel began early, and thereafter, to near the close of his life, he spent a large part of his time on the Continent, following the itineraries of Turner and gaining knowledge of Continental art—more particularly the great schools of Italian painting and the monuments of mediaeval architecture.

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*Herne Hill, Surrey, was his home in childhood and youth, and Brantwood, Coniston, Lancashire. that of his old age.

His method of study was largely through drawing. The lead-pencil and the water-color brush, he had always at hand. His mature drawing is that of a master, but he practiced it for the ends of study and pictorial record, not as an end in itself. He never made pictures as such, and the vast majority of his drawings are little more than notes of form, composition, and color; but in all of them he was careful to establish proportions, and to note rhythms and other relations of things from greatest to least. However hasty, his work is never careless or wanting in definite meaning up to the limits of the terms employed.* In point of expressive delineation, his drawings are unequalled by those of any other master save Turner.

I believe Ruskin did not set out to be a critic, but was drawn into criticism by what he felt to be injustice to Turner on the part of incompetent writers. This injustice awakened in him a compelling impulse to write. In the preface to the second edition of *Modern Painters,* he remarks: "No man, says Southey, was ever yet convinced of any momentous truth without feeling in himself the power, as well as the desire, of communicating it. In asserting and demonstrating the supremacy of this great master I shall be able to illustrate many principles of landscape painting which are of general application, and have hitherto been unacknowledged." With this conviction he set himself in earliest manhood to the task of expounding what he believed to be the true principles of landscape art, and published the first volume of *Modern Painters* when he was but twenty-four years of age.

The best part of this book is, I think, that in which he treats of the beauty of nature. The chapters on the open sky, the conformations of earth and mountain forms, and of vegetation, are without parallel. His knowledge of these things was scientific, but science with him was in the service of natural vision. He never forgot that the artist is concerned only with impressions on the eye. Of internal anatomy, save as it is externally apparent, the artist, he held, requires no knowledge. He shows that the art of Turner demonstrates this in the field of landscape subject, and that all great art which deals with the human form—from the Theseus of the Parthenon to Gainsborough's Blue Boy—confirms it.

Representative art, in whatever form, was to Ruskin, a manifestation of human enjoyment of the beauty of the natural world, or, in his own words, "an expression of man's delight in God's work." Great art, he affirmed, is ever true to nature; but the manner in which this truth is expressed is determined by the artist's personal temperament, and by the natural conventions pertaining to the materials in which he works. It is always truthful, he maintains, up to the limits of these conventions, and of the workman's capacity, when it is wrought without sophistication.

But conditions in England in the early nineteenth century were, he felt, largely unfavorable to natural feeling and artistic sincerity. The ideas of connoisseurs and the teaching of the Academy, were fashioned on artificial standards, that were thought to have been authoritatively established by the so-called Old Masters, i. e., the later figure painters of the Continent and such landscapists as Claude and Poussin. On these spurious standards, and not on spontaneous feeling and impassioned observation of nature, the aspirants for so-called high art, strove to form their style. Ruskin easily demonstrated that these old masters had falsified nature in almost every particular, and his exposition of their inveracities effected a far-reaching change in the character of English landscape painting. Since *Modern Painters* appeared, the artificial conventions of seventeenth century old masters have ceased to influence English art.

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*The writer enjoyed his friendship for many years, and was often allowed to look on as he worked.

In affirming truthful interpretation of nature to be a fundamental principle of pictorial design, Ruskin was on solid ground, but in other respects his teaching is often questionable, and sometimes clearly fallacious. For example, his definition of great art, as that which "conveys to the mind of the spectator the greatest number of the greatest ideas," and his lengthy discussions of what he considers the nature of the "ideas conveyable by art," contain much that cannot be justified—his ban on the word aesthetic in particular. As to this, he tells us (Vol. I), that "two fatal and wide-spread errors respecting the faculties of mind concerned in them have prevailed." The first of these he calls the theoretic faculty, and says, "the error respecting it is that of calling it aesthetic," and he rejects the term on the ground that it "properly signifies mere sensual perception of the outward qualities" of things, and "wholly" denies that impressions of beauty are in any way sensual. They are, he declares, "neither sensual nor intellectual, but moral." But it cannot be denied that impressions of outward beauty come through the senses. They derive their quality, however, as I think will be agreed, from that of the recipient. In themselves, impressions of sense are neither moral nor immoral. If a man be in a state of moral rectitude, his sensual impressions will be of corresponding character. But if the sensual principle be degraded, these impressions will naturally be of an opposite quality. In either case they are aesthetic.

Ruskin's best powers are shown, I think, in his own artistic achievement in both literary and graphic expression. As a draughtsman, whether of architectural subjects or of natural subjects, he has had few equals among the greatest masters of delineation. It may be added that he was not only a great observer and recorder of the beauty of nature and art, but also a poet of exalted feeling and extraordinary powers.

The LIBRARY OF THE ARCHITECT

By
A Lawrence Kocher

If, to a degree, it is true that a man is known by the books he reads, with a similar limitation the architect may be judged by his reading and by the plates that he follows in his office practice. Books have brought the resources of all ages to the architect—the knowledge of all styles and an acquaintance with all modes of construction. Ours is a retrospective age that is linked to the past and which can and does produce, or reproduce the Greek, the Byzantine, the Gothic or any other style of monument with equal facility.

Whatever architecture may or may not be, it has always concerned itself with man. For this reason a selected list of books should not be purely architectural, nor should it in any sense be of the variety that we refer to as "a five foot shelf." There are books of the greatest importance that touch upon the human side of life—which serve as "sidelights" and which may be said to give a background. Such, for instance, are the masterpieces of literature and history; and even more closely allied to the profession are the books with the atmosphere of the craftsman and the builder, the enduring and vigorous Autobiography of Benvenuto Cellini and the more recent Mont Saint Michel and Chartres by Henry Adams. These works contribute to what has been termed "a creditable kind of ignorance" so far as architecture is concerned, but they go farther in that they cultivate the spirit, rather than add to our knowledge or skill.

The attempt to secure an approved and boiled down list of books dealing with architecture has been previously made.* In 1908, Mr. Edward R. Smith, Reference Librarian of the Avery Architectural Library at Columbia University, prepared an authoritative compilation of standard architectural books which was intended for offices and public libraries. The list includes 54 titles of elementary and fundamental works on architecture that architects, "the younger men especially, who contemplate the starting of a library, would find helpful." To the enumeration of each work he added a brief comment upon the character and usefulness of the contents. These books, he said, "would give the greatest charm and value to an architectural library."

In 1917 a questionnaire was circulated in the principal offices of architects in New York City as an attempt to determine the ten books most valuable to draftsmen and students. The results were interesting and surprising because of the wide variety of opinions that were expressed. The final list contained several hundred titles. There were, however, the outstanding duplications which indicated a certain unanimity and this "popularity group" constituted a favored selection.

The objection may be raised that any selection from one man would of necessity be personal and biased by inclination and special interests and therefore of little use to another individual. It is just this bias or dependence that adds interest to the personal choice. Where is there an architect who will not scan with genu-

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NOTE: This is the first of a series of articles in which are voiced the opinions of architects upon the subject of books and reading for the draftsman and architect.

*Best twenty books for Architect's Library: American Architect and Building News. 1887 v. 21, p. 81.

"An Architect's Library" The Architect (England). 1893 v. 50, p. 233-236, 243-245.

The Brickbuilder, A List of Standard Architectural Books for offices and Public Libraries, by Edward R. Smith v. 17, July, August, September, pp. 149, 150, 167, 168, 215, 216.

ine curiosity, the list of such a stylist as Mr. Charles A. Platt or of Mr. Bertram G. Goodhue or of Mr. Charles Z. Klauder? It is to our advantage, in a sense, that some architects have ignored the request to give titles of "background literature." The choice has generally been made from the working library of the office and not so frequently from the more intimate and readable volumes of the architect's home.

In almost any other profession it would be futile for the mature man of achievement to offer advice regarding reading to another generation. With architecture, however, with its "conscious retrospective motive," the bibliography of office literature has changed but little and Letarouilly, Pugin and Viollet-le-Duc are presumably as indispensable to the young architect of to-day as to the practitioner of the late nineties.

MR. LOUIS SULLIVAN.

Mr. Louis Sullivan makes a plea that the architect be emancipated from just such office literature and urges that the library be broadened and arranged with a freer atmosphere to take architecture out of its present isolation. He commends the thoughtful reading of the chapters of Nôtre Dame by Victor Hugo and the books of Lisle March Phillipps; but cautions against the intense prejudice of this latter author. "John Dewey's Reconstruction in Philosophy," he says, "is sound to the core, but presupposes a general knowledge of the history of philosophy. The same comment holds true of many invaluable works of many kinds."

MR. CASS GILBERT

Mr. Cass Gilbert offers a programme of reading that has breadth as well as depth and to it he would add a continued practice in observation and drawing. "I would say to the student that he read history—the history of France, England, Italy and Greece. Read such books as "The Golden Days of the Renaissance," by Lanciani. "The Life of Savonarola" —"Church Building in the Middle Ages," by Charles Elliot Norton. Read Greek literature such as Herodotus, and Xenophon's "Anabasis" and "Pausanias" to get some idea of Greek character. Read "The Life of Michelangelo" and the lives of other Italian artists, and familiarize yourself with their works from pictures and photographs. Read the autobiography of Benvenuto Cellini. These will give the student some idea of the Italian character and the circumstances which environed the Italian artists.

"The Mont Saint Michel and Chartres," by Henry Adams, is admirable but almost too strongly imbued with a religious or sectarian point of view to be wholly good from the architectural standpoint. Read Motley's "Rise of the Dutch Republic" to get an idea of the character of the citizens of Northern Europe in the sixteenth century. Reading of this class, with constant reference to illustrations, photograps and pictures will be most beneficial to an architectural student.

"Make drawings all the time. Sketch everything in sight. Sketch from pictures, from published designs, from buildings and monuments. No matter how badly you draw, continue to draw. Study and sketch the patterns of fabrics, wall paper, tapestries, and note the practical application of more or less geometrical forms to artistic ornament.

"Sketch mouldings and shapes of things by handling them as well as by looking at them, so that by feeling the contour of the moulding with the fingers you can determine the shape as well as by looking at it. Sketch and draw everything, even down to candlesticks and old silver. Keep the pencil active and the mind will keep pace with it.

"It's great fun. No pleasure equals study when joyfully pursued. Get all the fun you can out of it—and *work!* Go less often to the 'movies' and more often to libraries and between times get all the healthful exercise you can, for the programme I have suggested to the student will certainly need it; but do not waste any time sitting around, playing house games like cards, or loafing in idleness under the impression that you are 'resting.'

"One more thing of practical character is this: That when an architectural subject is discussed or mentioned (take for instance the Piazza del Popolo in Rome), the student should follow it up, go to the library, make note of the plan, identify the buildings and monuments that surround it and fix them in his mind by a few sketches, however hasty. How many have looked at photographs of the Spanish Steps in Rome and would be utterly unable to even suggest the plan upon which they are laid out. Study means not only a casual look at an object but the reception of an impression which can be retained and utilized.

MR. R. CLIPSTON STURGIS.

"An architect, more than almost any other professional man," says Mr. R. Clipston Sturgis, "ought, in my judgment, to be a wide reader, on the Arts, Music, Painting and Sculpture, on Philosophy and Psychology. The architect needs a mind which thinks clearly. Each man must judge for himself, because, I believe, it is useless for any one to waste time on reading a book which does not interest him. If Vasari's "Lives" does not interest, perhaps Browning's picture of Fra Lippo Lippi and of Andrea del Sarto would, and he had better learn of these painters from Browning.

"The numberless good books of photographs and measured drawings such as Gotch, Belcher and Macartney, Ysendyck, are useful for reference, but much more useful if one has seen at least some of the buildings shown.

"The young architect's best training should be in accurate observation and memory. This can be cultivated best by drawing all the time, on the spot and from memory; and trying always to select things that are worth remembering."

MR. ALEXANDER B. TROWBRIDGE.

Mr. Alexander B. Trowbridge approaches the subject of reading from a different angle purposely omitting the mention of books that touch upon style, composition and planning in order to emphasize what he considers to be of equal importance; namely, books treating of the business side of architecture and books that deal with architectural sculpture and mural painting. "It may be," says Mr. Trowbridge, "that not enough stress will be laid upon the amount of information an architect should have in connection with other branches of the fine arts. For this reason, I am disposed to recommend books on sculpture and on painting, with special reference to architectural sculpture and to mural painting. It would seem to me that the young architect should be not only advised to read on these subjects, but if he has any talent or any inclination to draw or paint, he should be most decidedly encouraged to exercise his talent. If, through such experience, he learns a good deal about the technique of painting, it makes him sympathetic about the difficulties of the mural painter and it also enables him to coöperate successfully with the mural painter, since he will very likely have a voice in the choice of a painter for a piece of work, and he will choose one whose style of work is best adapted to the problem in question.

"I do not believe that the book has yet been written touching upon architectural sculpture in exactly the way in which it is needed. Such a work would require a tremendous amount of investigation and study, but it would be very well worth while. There are several good books written by Englishmen and some in this country that would be worth the reading for the general purpose of broadening the horizon of a student.

"I have also a feeling that other architects may not lay enough stress upon the business side of architecture. One of the great weaknesses in our profession is the attitude that many young architects take with regard to the necessity for business methods and business systems. It takes a man quite a while to learn what the word "overhead" means, and he is very apt to figure his costs on the basis of drafting and materials, and to forget at first about rent, stenography, telephone, and so forth. He is also very likely to cover a long period before he learns the necessity of keeping careful records of conferences with clients, for the sake of evading misunderstandings and unjust blame. There are a great many such points which should be accentuated in advising young architects and students.

"In both of these fields referred to, I am not specifically mentioning titles of books. I have, for instance, not had the opportunity of late to investigate the market for books on mural painting and sculpture and business methods in architects' offices. I know that excellent articles have appeared in our technical magazines and it may be that the information desired may, for the present, have to be obtained from that source.

"Another weakness among architects is the lack of training in ordinary expression in English, either written or spoken. It would seem as if Henry Adams' book on Mont Saint Michel and Chartres would give the literary touch needed by the student, while at the same time he would be getting a good deal of architectural interest in his reading. I do not remember the autobiography of Benvenuto Cellini accurately, but I remember it was full of blood and thunder episodes, including murders and plots, and was built upon a pretty low order of public morals. It is, however, undoubtedly a remarkable book. I am told that a recent volume by the younger Hamlin is very good reading. I think it is called "The Enjoyment of Architecture."* I haven't read it yet myself, but I am looking forward to that pleasure."

MR. H. VAN BUREN MAGONIGLE.

Mr. H. Van Buren Magonigle believes most emphatically in books that give a background. "I would have a young architect read books that more than 'touch' upon the human side of architecture—for if architecture is not human it is nothing, has neither roots nor blood. The 'Little Novels of Italy,' by Maurice Hewlett, give more of the atmosphere of Italy than a thousand dry-as-dust treatises. The first thing that happens to a boy as a rule is to have Fergusson thrust upon him and he gets an immediate indigestion and a distaste for architectural reading that lasts him a long time. Of course such books as "Mont Saint Michel and Chartres" or Cellini's Autobiography are not enough to round out a man. The advice I give to my own men may be summed up by a quotation from a little pamphlet known here as the "Office Bible":

" 'Architecture touches life at all points and unless an architect knows life—the life of the past as well as of his own time, his work will be lifeless, dry and juiceless. He must therefore be an omnivorous reader of great literature, fiction, essays, history and biography. . . . He should hear good music and go to the play. He should see and study good pictures and sculpture. . . .' "

MR. J. W. CROSS.

Mr. J. W. Cross prefers to consider reading as a subject that should be considered on the basis of a general education in the best literature, whether strictly pertaining to the arts or not. "Outside of the standard books in all architects' libraries, such as Letarouilly, César Daly and such, the field is so vast that it would be rash to make any kind of selection. There is a tendency in these days to specialize and theorize too much —a schol based on the 'slide rule' principle for obtaining short cuts to art by some form of mathematics. As an antidote to this tendency I might mention a book entitled 'Art and Common Sense,' by Royal Cortissoz—one critic who is always worth reading. I should hardly care to be any more specific than this."

MR. CLAUDE BRAGDON.

Mr. Claude Bragdon tells of the books that have meant most to him. "Of course," he says, "we cannot afford to leave out old Vitruvius who, though something of a bore at times, contains much excellent matter of which we stand in need.

"At a formative period of my life I got a great deal out of Volume One of Viollet-le-Duc's 'Discourses on Architecture.' The books of L. March Phillipps should be read by every architectural student. He should read Vasari's "Life of Brunneleschi' and ponder it deeply. It is a perfect epitome of the trials and difficulties of every architect who forsakes the beaten path. Among contemporary writers I should say that with a poised and critical mind one might derive much from Cram's 'Substance of Gothic,' always remembering that Cram, like Ruskin, is an eloquent special pleader and suits his mind to the case for the defense.

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*Hamlin, Talbot F. The Enjoyment of Architecture. N. Y. Duffield & Co., 1916.

"I value Irving Pond's 'The Meaning of Architecture' very highly. It contains a great idea presented with a halting art. Hambidge's 'Dynamic Symmetry' should be understood for it supersedes all other systems of proportions, being the most fundamental. I must add 'The Beautiful Necessity' even though I wrote it myself."

Mr. Charles Z. Klauder.

Mr. Charles Z. Klauder of the firm of Day & Klauder, emphatically endorses the books that touch upon the "human side" of architecture—such books as:

Henry Adams—Mont Saint Michel and Chartres.
Autobiography of Benvenuto Cellini.
J. Addington Symonds' The Italian Renaissance.
Quatremère de Quincy—Raffael and Michelangelo.
Romain Rolland—Michelangelo.
Vasari—Lives of the Painters.
Hewlett—Earthworks out of Tuscany.
Hare—Walks in Rome.

While somewhat more technical are the following:

Saind and Arnold—Stained Glass.
James Fergusson—History of Architecture.
Smith & Clater—(Two small volumes) History of Architecture.
W. J. Anderson—Classic Architecture and Italian Renaissance.
Gromort—Italian Renaissance Architecture.

"In answer to an inquiry we received several years ago, we prepared a list of the books we valued the highest on Gothic architecture. It is as follows:

A. Pugin	*EXAMPLES OF GOTHIC ARCHITECTURE. Selected from various Ancient Edifices in England. 2nd Edition, 3 vols. Bohn, London, 1838. The second vol. (1839) by A. Pugin and A. W. Pugin. The third vol. (1840) by A. W. Pugin and T. L. Walker.
A. Pugin	*SPECIMENS OF GOTHIC ARCHITECTURE. Selected from various Ancient Edifices in England. 2 vols. Nattali & Bond, London, Circa 1821.
A. Pugin and H. Le Keux	*SPECIMENS OF THE ARCHITECTURE OF NORMANDY. FROM THE XI TO THE XVI CENTURIES. 1 vol. Blackie, London, 1874.
R. Willis	ON THE CONSTRUCTION OF THE VAULTS OF THE MIDDLE AGES. 1 small vol. Reprinted from the "Transactions of the Royal Institute of British Architects." Vol. 1, Part 2. 1842—London. Royal Institute of British Architects, 9 Conduit Street, London, 1910.
	ARCHITECTURAL ASSOCIATION SKETCH BOOK.
Edmund Sharpe	ARCHITECTURAL PARALLELS OR THE PROGRESS OF ECCLESIASTICAL ARCHITECTURE IN ENGLAND THROUGH THE 12TH AND 13TH CENTURIES. 2 vols. Folio. J. Van Voorst. London, 1848.
Garner and Stratton	THE DOMESTIC ARCHITECTURE OF ENGLAND DURING THE TUDOR PERIOD. 2 vols. Folio. Batsford, London, 1911.
Viollet-le-Duc	DICTIONNAIRE RAISONNÉ DE L'ARCHITECTURE FRANCAISE DU XI AU XVI SIECLE. 10 vols. Morel, Paris, 1873.
Epiphanius Wilson	THE CATHEDRALS OF FRANCE. 1 vol. The Churchman Co., New York, 1900.
F. A. Paley	A MANUAL OF GOTHIC MOULDINGS. 1 small vol. London.
Francis Bond	GOTHIC ARCHITECTURE IN ENGLAND. 1 vol. Batsford, London, 1906.

J. Alfred Gotch	ARCHITECTURE OF THE RENAISSANCE IN ENGLAND. 2 vols. Folio. Batsford, London, 1894.
Howard and Crossley	ENGLISH CHURCH WOODWORK, 1250 TO 1550. 1 vol. Batsford, London, 1917.
Bowman and Crowther	THE CHURCHES OF THE MIDDLE AGES. 2 vols. George Bell, London, N. D.
John Britton	THE ARCHITECTURAL ANTIQUITIES OF GREAT BRITAIN. 5 vols. M. A. Nattali, London, 1835.
John Britton	CATHEDRAL ANTIQUITIES. 5 vols. M. A. Nattali, London, 1836.
Francis Bond	AN INTRODUCTION TO ENGLISH CHURCH ARCHITECTURE FROM THE 11TH TO THE 17TH CENTURIES. 2 vols. Oxford University Press, 1913.
R. and J. A. Braddon	PARISH CHURCHES. 2 vols. W. Kent & Co., London, 1858.
......Brandon	AN ANALYSIS OF GOTHIC ARCHITECTURE. 2 vols. P. Richardson, London, 1847.
......Brandon	ON ROOFS.
James K. Colling	DETAILS OF GOTHIC ARCHITECTURE. 2 vols. Batsford, London, N. D.
W. Eden Nesfield	SPECIMENS OF MEDIAEVAL ARCHITECTURE SELECTED FROM EXAMPLES OF THE 12TH AND 13TH CENTURIES IN FRANCE AND ITALY. Day & Son, London, 1862.
John P Neale	HISTORY AND ANTIQUITIES OF WESTMINSTER ABBEY AND THE HENRY THE SEVENTH CHAPEL. 1 vol. Willis & Sotheran, London, 1856.
F. T. Dollman and J. R. Jobbins	AN ANALYSIS OF ANCIENT DOMESTIC ARCHITECTURE, EXHIBITING THE BEST EXISTING EXAMPLES IN GREAT BRITAIN. 2 vols. Atchley & Co., London, Circi, 1861.
J. H. Parker	GLOSSARY OF GOTHIC ARCHITECTURE. London.
....	THE ARCHITECTURAL REVIEW. London.
....	COLLECTION OF PHOTOGRAPHS AS EXTENSIVE AS POSSIBLE.
R. Norman Shaw	ARCHITECTURAL SKETCHES FROM THE CONTINENT. 1 vol. Day & Son, London, 1858.

To cover the ground fully the following upon Classic and Renaissance architecture should undoubtedly be added:

*D'Espouy	MONUMENTS ANTIQUES.
*D'Espouy	FRAGMENTS D'ARCHITECTURE ANTIQUE.
*Letarouilly	EDIFICES DE ROME MODERNE.
Garner and Stratton	DOMESTIC ARCHITECTURE OF ENGLAND DURING THE TUDOR PERIOD.
Belcher and Macartney	LATER RENAISSANCE ARCHITECTURE IN ENGLAND.
Whittlesey	SPANISH ARCHITECTURE.
Lambert	VERSAILLES ET LES DEUX TRIANONS.
Swarbrick	ROBERT ADAM AND BROTHERS.

*Architectural Association Sketch Book, London.

"I value the highest," says Mr. Klauder, "the four works which are marked by an asterisk, Pugin's and D'Espouy's works each being considered as one."

PORTFOLIO

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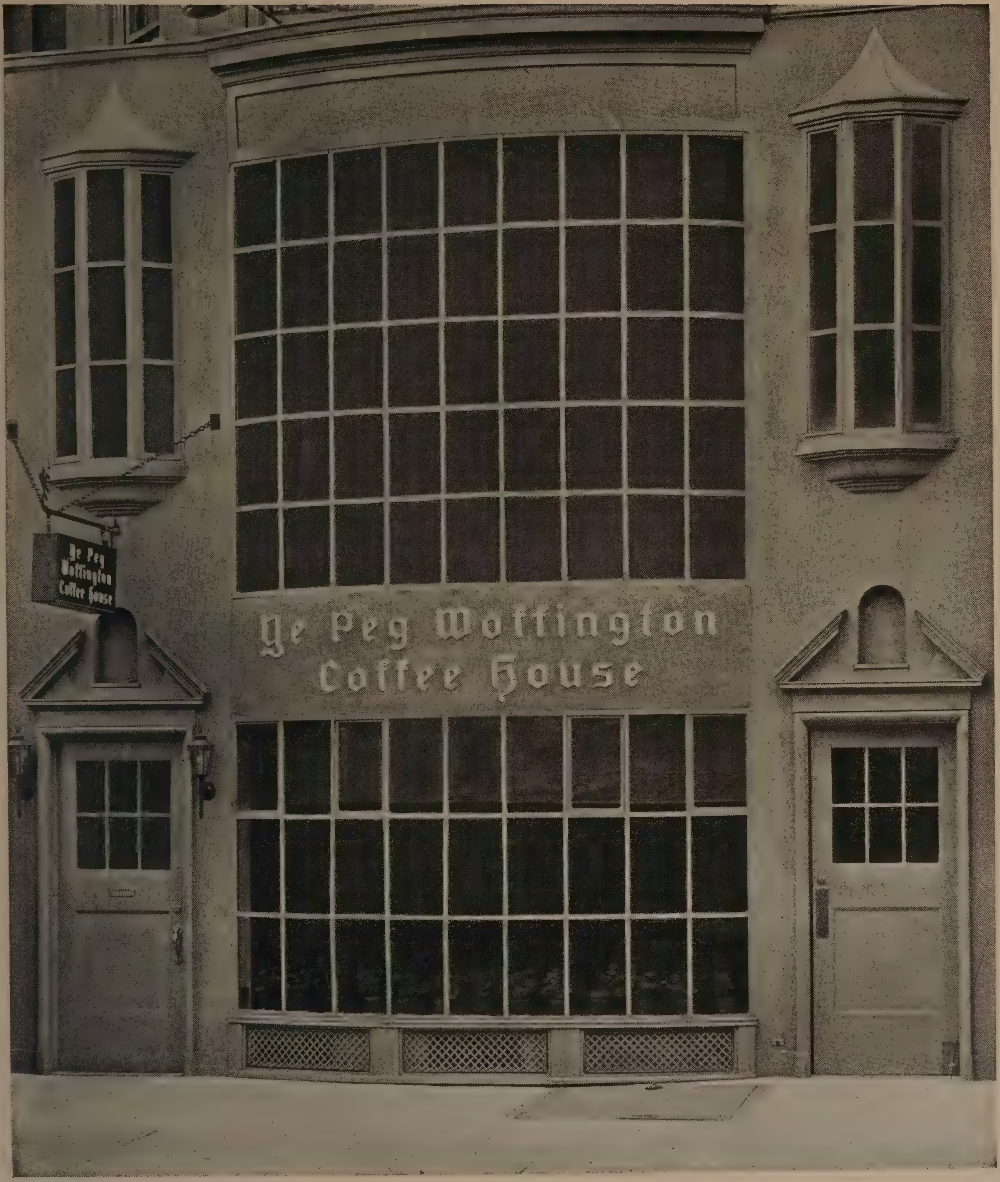
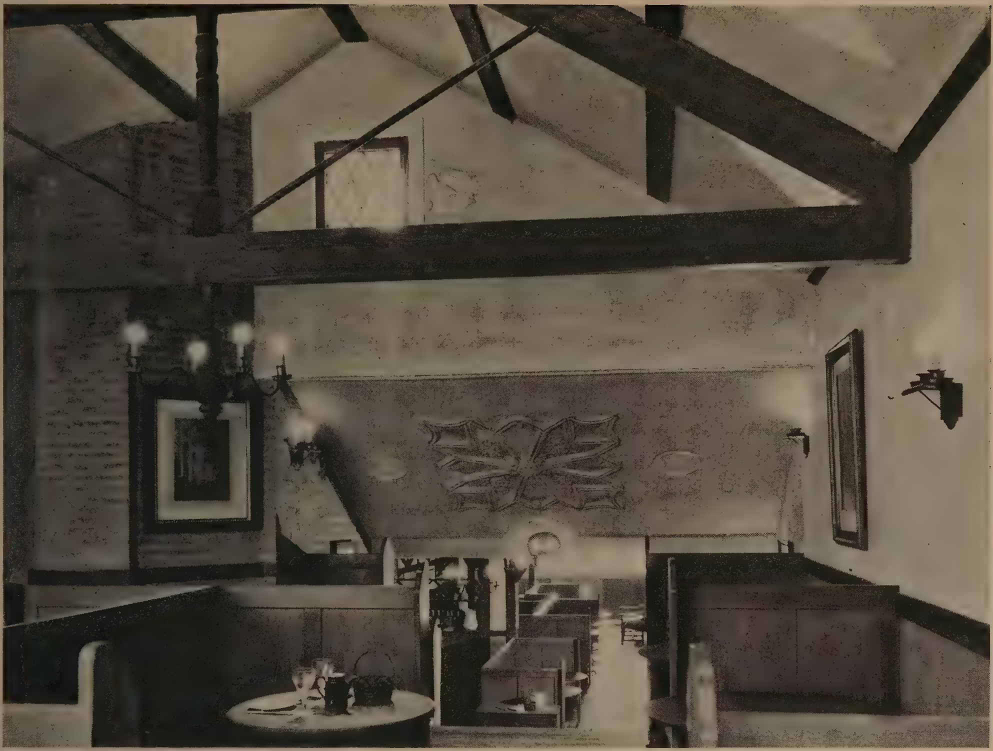
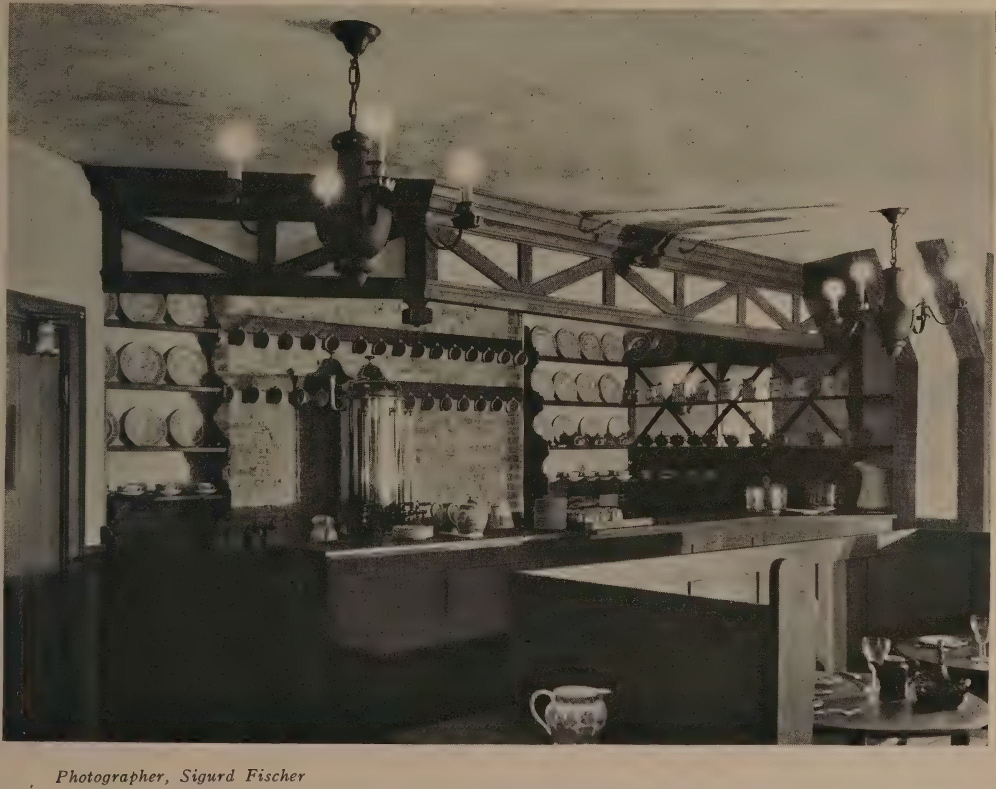

Ye Peg Woffington Coffee House
Ye Peg Woffington Coffee House

Photographer, Sigurd Fischer *The Architectural Record*

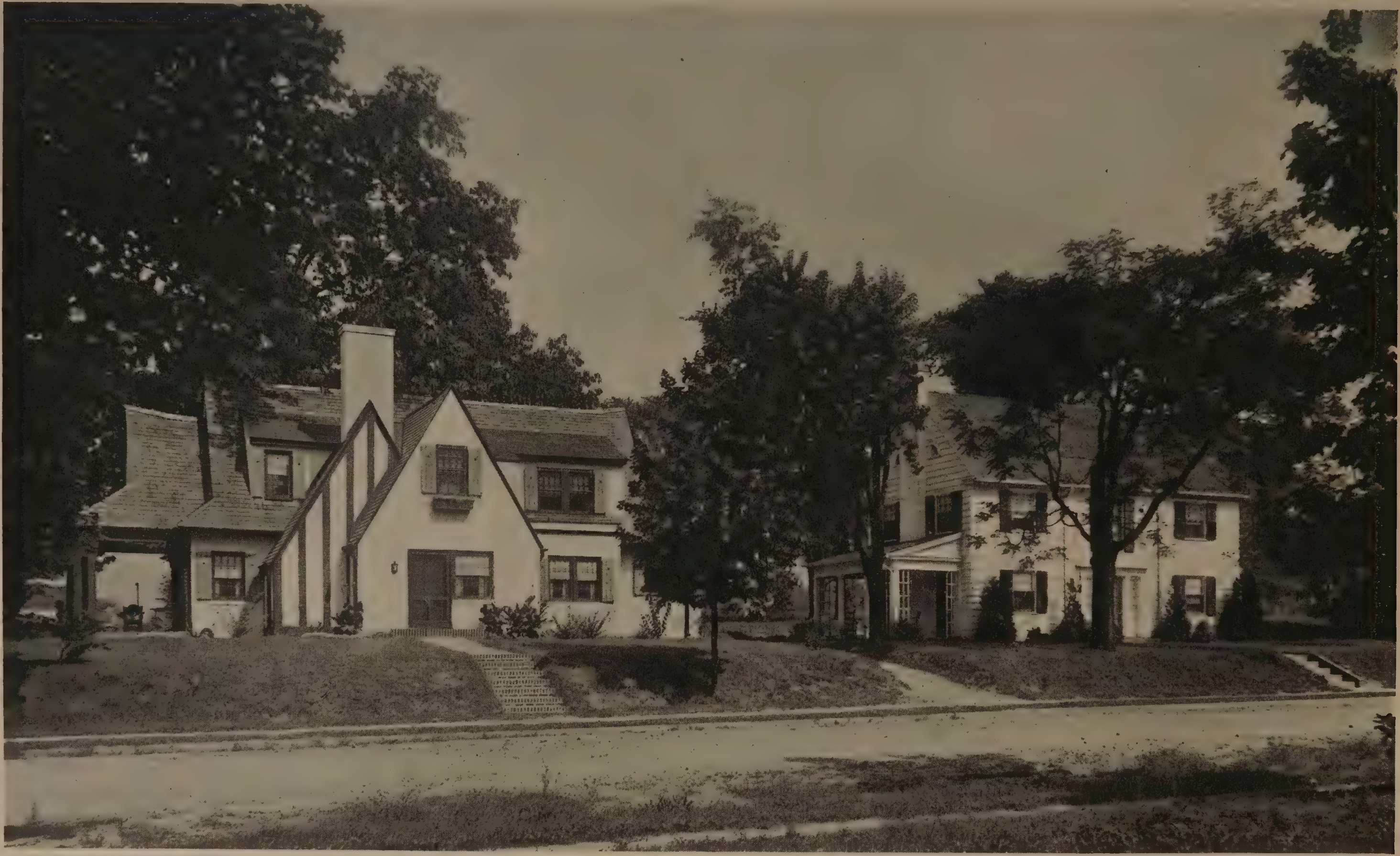
"YE PEG WOFFINGTON COFFEE HOUSE," NEW YORK
Richard Haviland Smythe, Architect





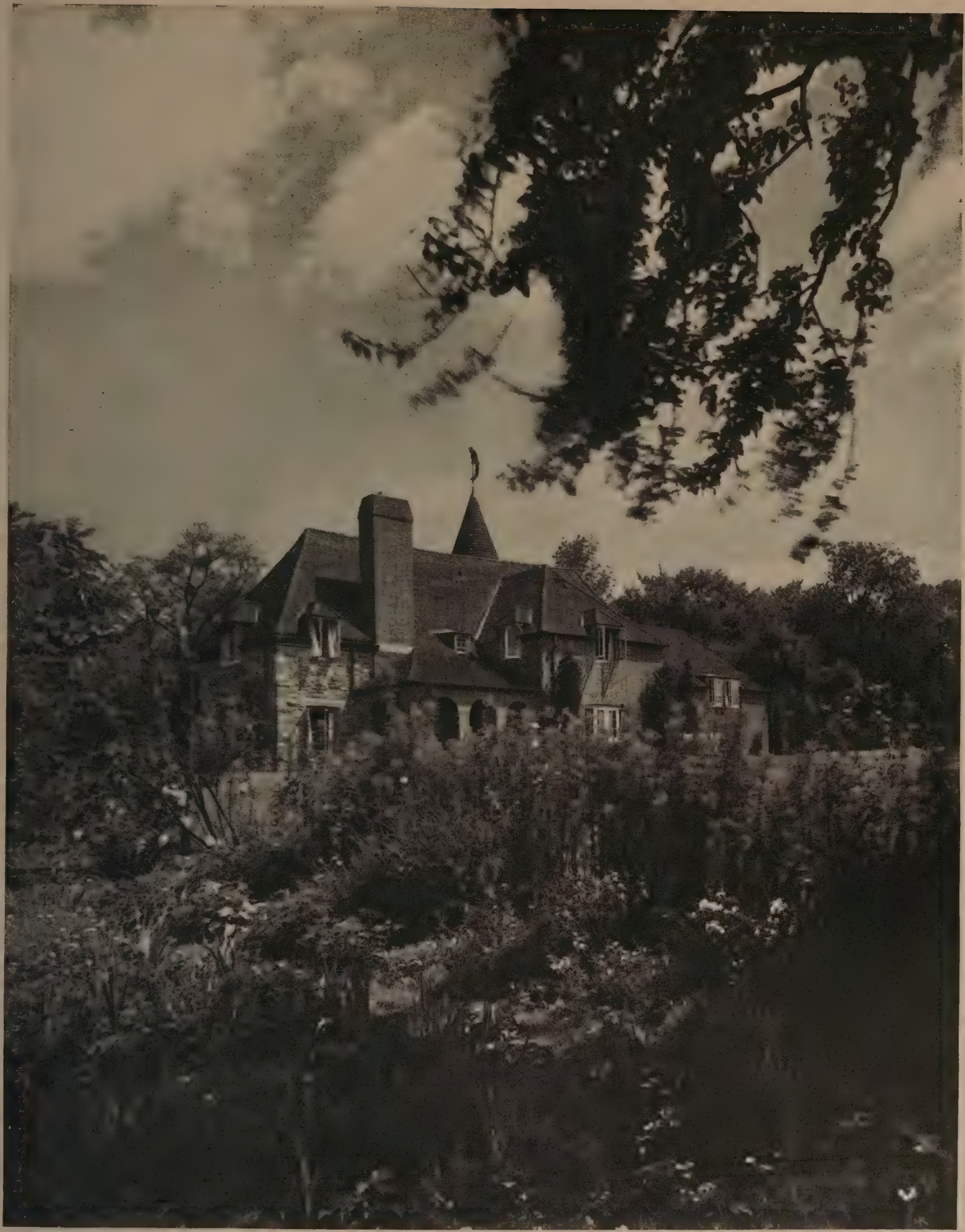
Photographer, Sigurd Fischer

"YE PEG WOFFINGTON COFFEE HOUSE," NEW YORK
Richard Haviland Smythe, Architect

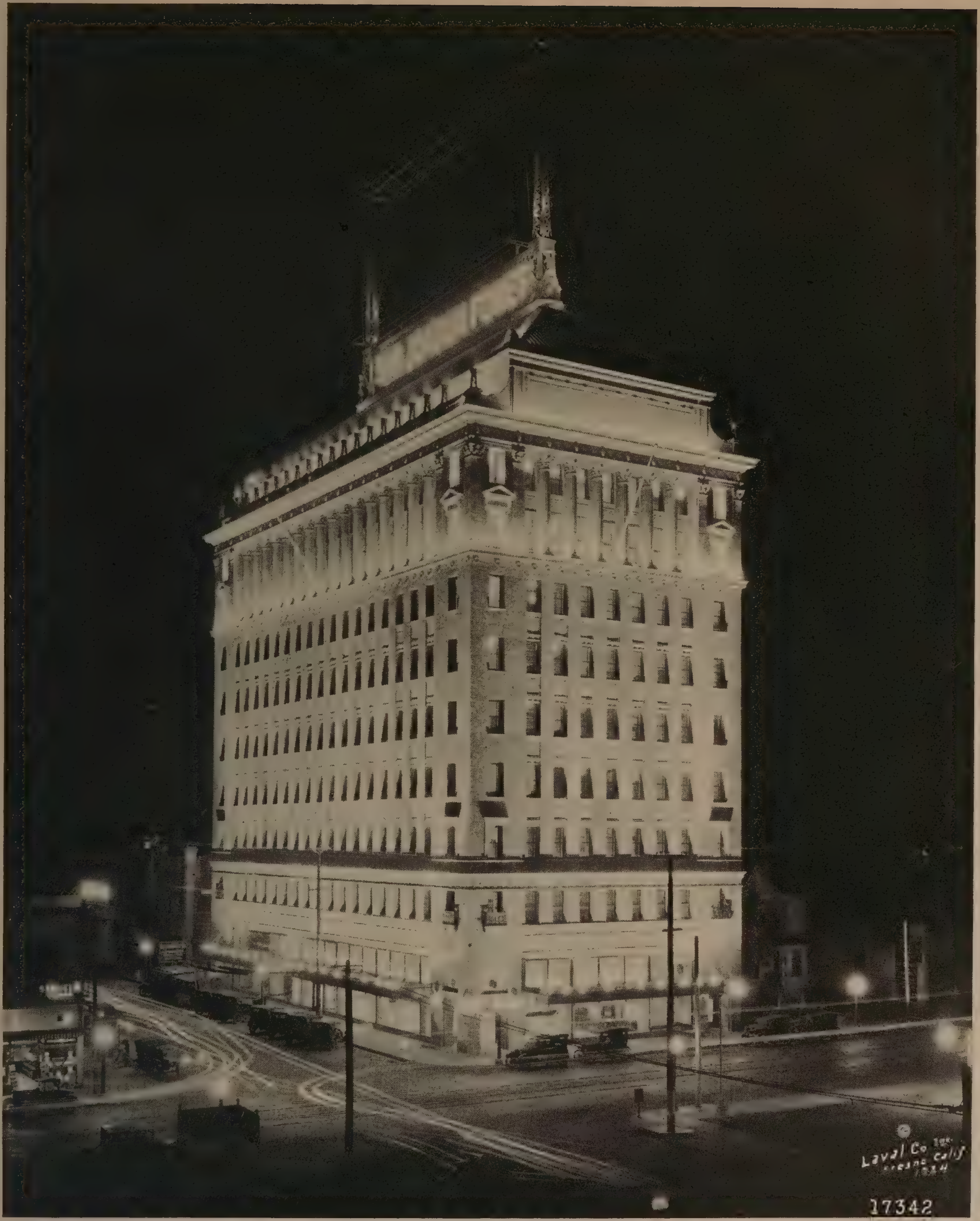


George Warhurst, Architect

TWO HOUSES AT PHILIPSE MANOR, NEW YORK

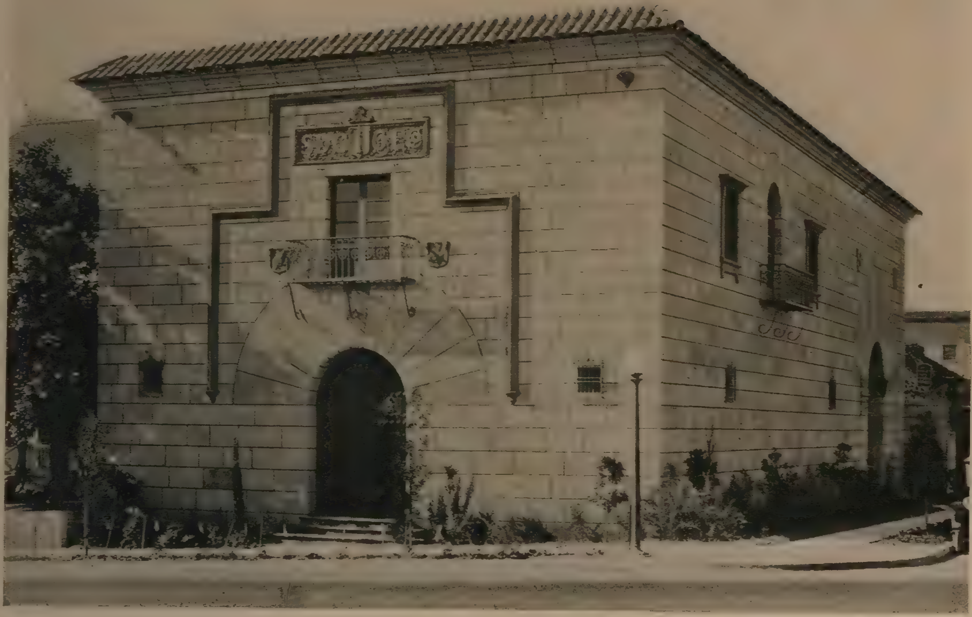


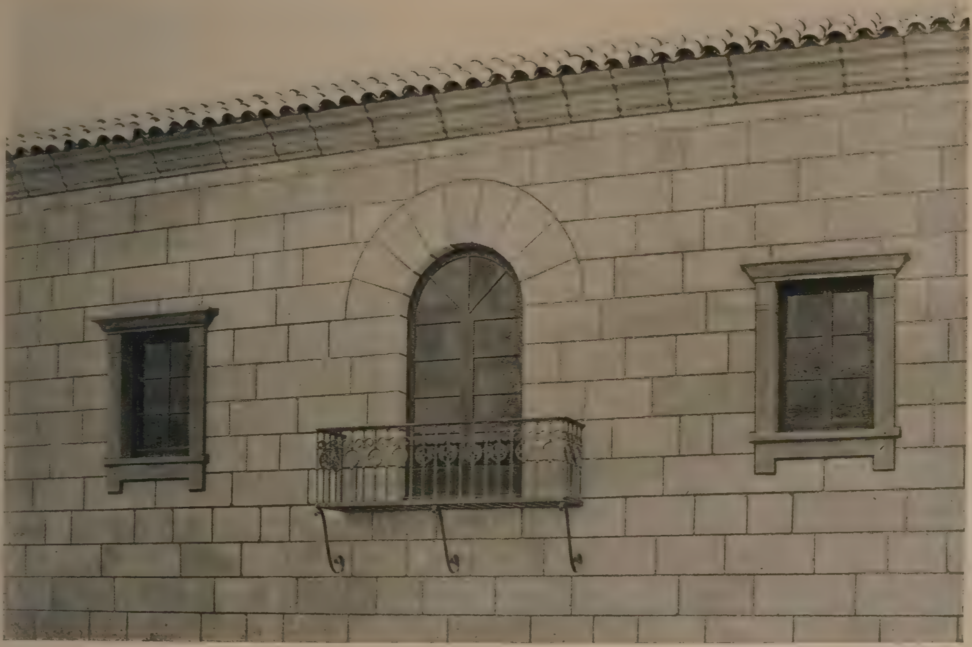
HOUSE AT HARTSDALE, NEW YORK
Andrew J. Thomas, Architect



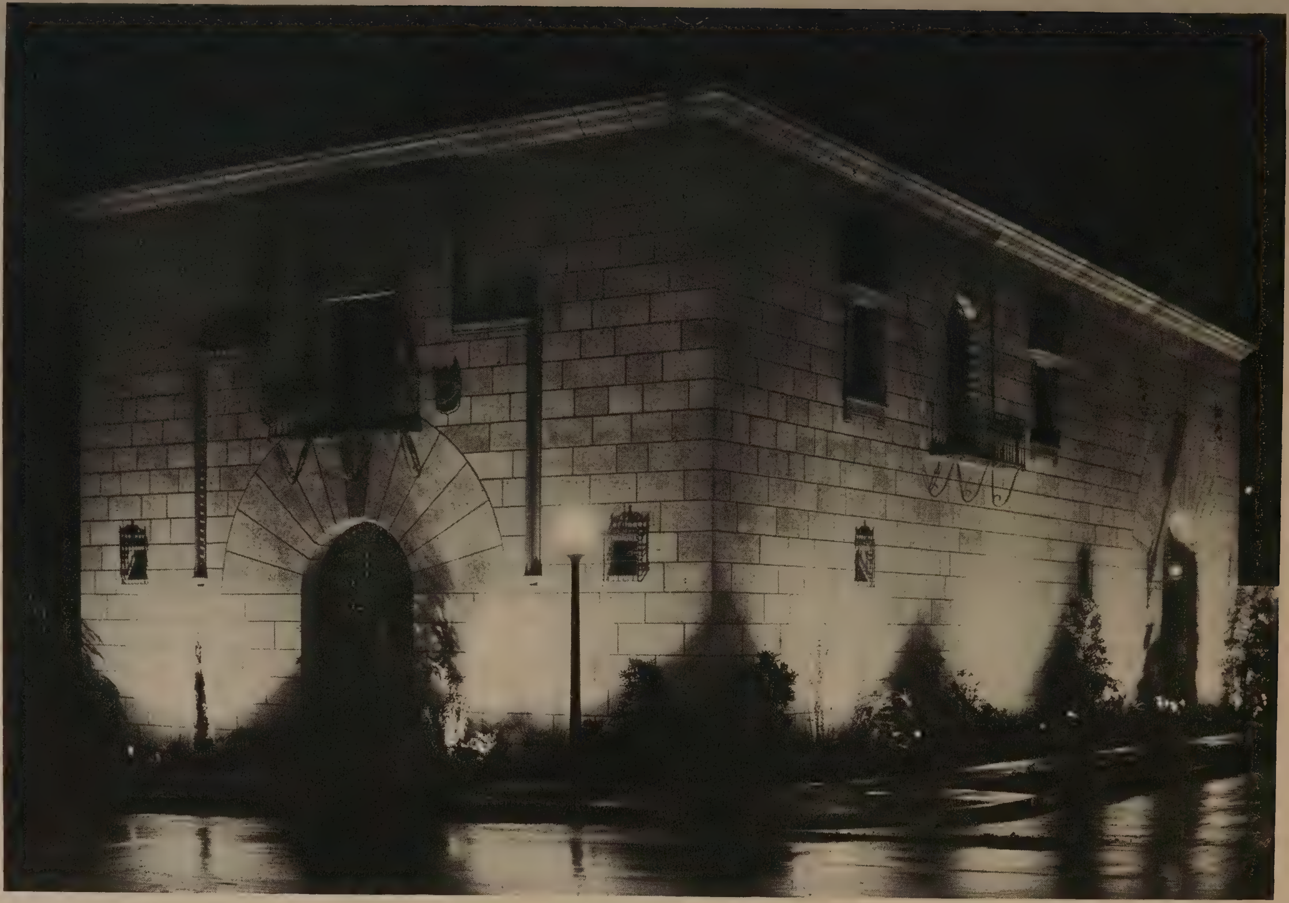
Raymond T. Shaw, Architect

SAN JOAQUIN LIGHT AND POWER CORPORATION BUILDING
FRESNO, CALIFORNIA





SUB-STATION OF THE SAN DIEGO CONSOLIDATED GAS AND ELECTRIC COMPANY, SAN DIEGO, CALIFORNIA
Requa and Jackson, Architects



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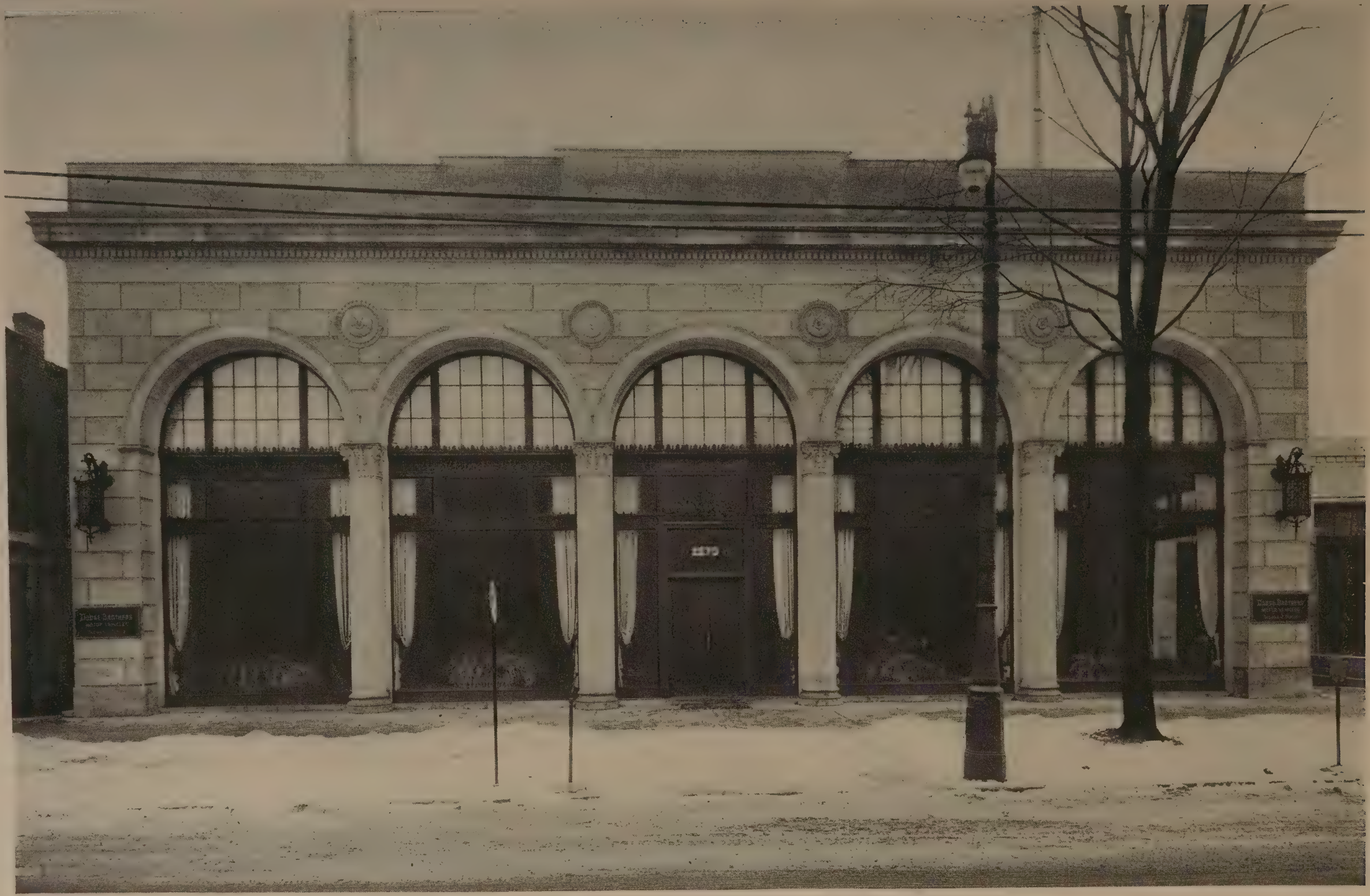
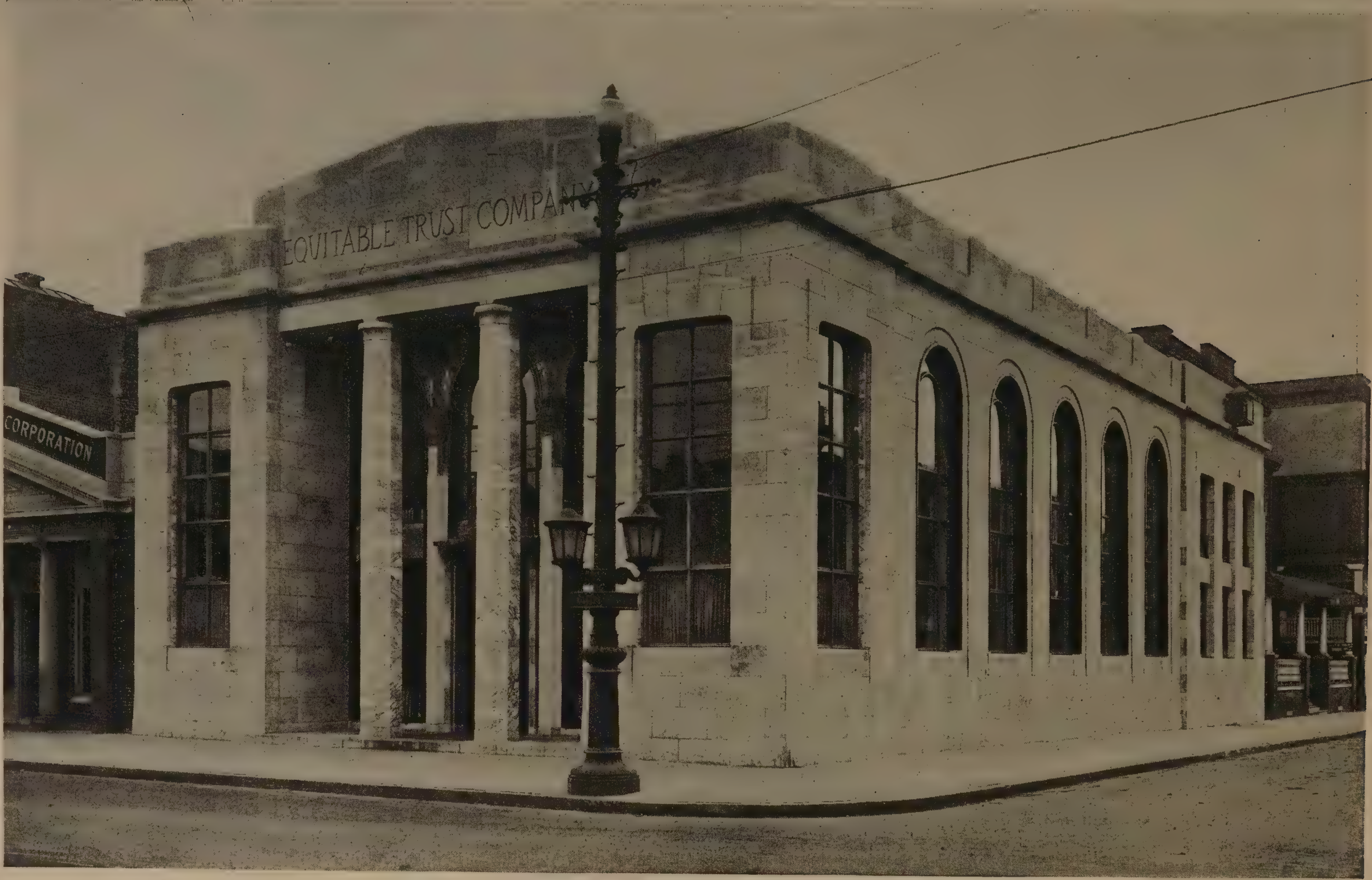
SAN DIEGO, CALIFORNIA
Requa and Jackson, Architects

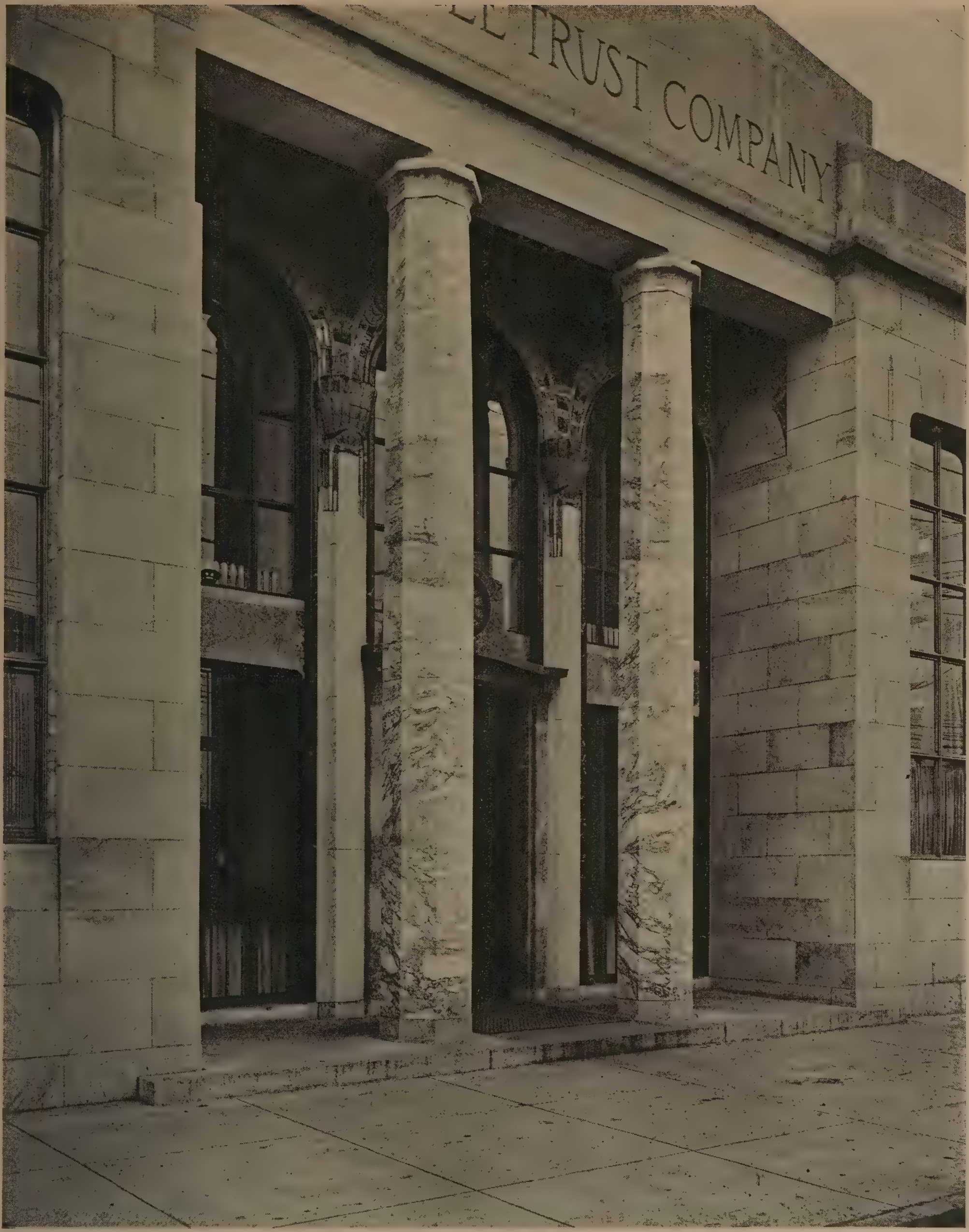


SHOW ROOM AND GARAGE, DETROIT, MICHIGAN

Smith, Hinchman & Grylls, Architects



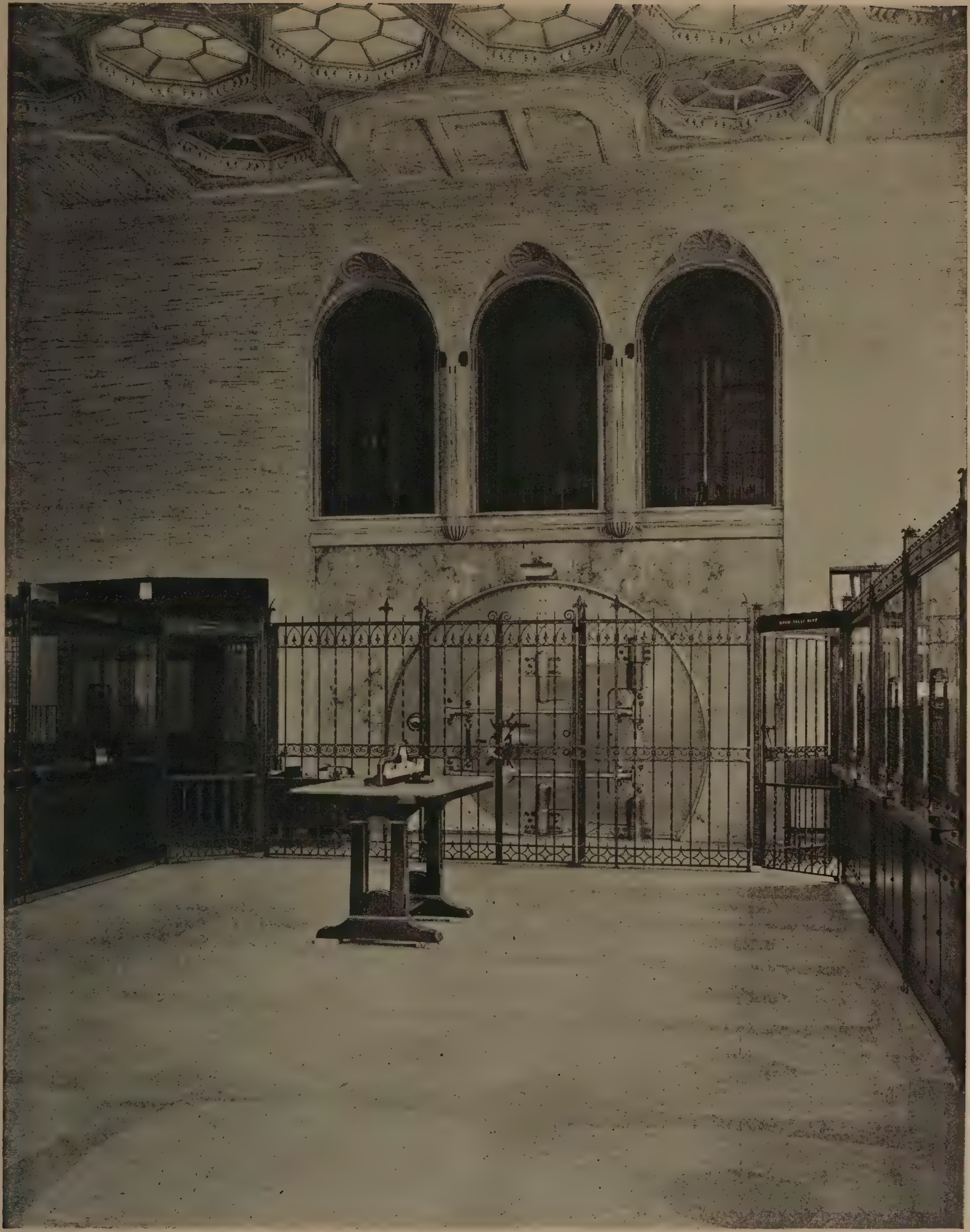
EQUITABLE TRUST COMPANY, ATLANTIC CITY, NEW JERSEY
McLanahan and Bencker, Architects



Entrance Detail

EQUITABLE TRUST COMPANY, ATLANTIC CITY, NEW JERSEY

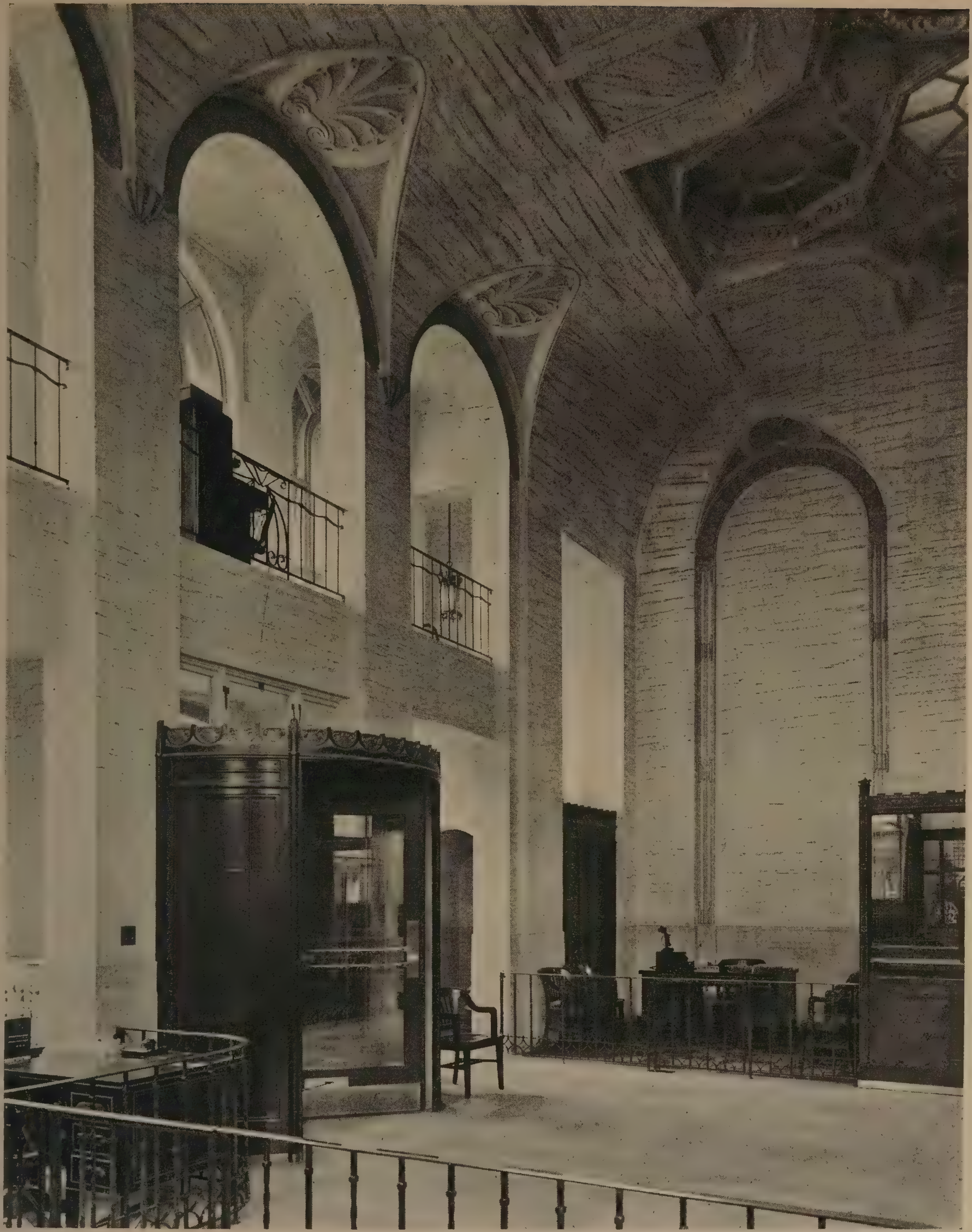
McLanahan and Bencker, Architects



Vault-Grille and Office Screen

EQUITABLE TRUST COMPANY, ATLANTIC CITY, NEW JERSEY

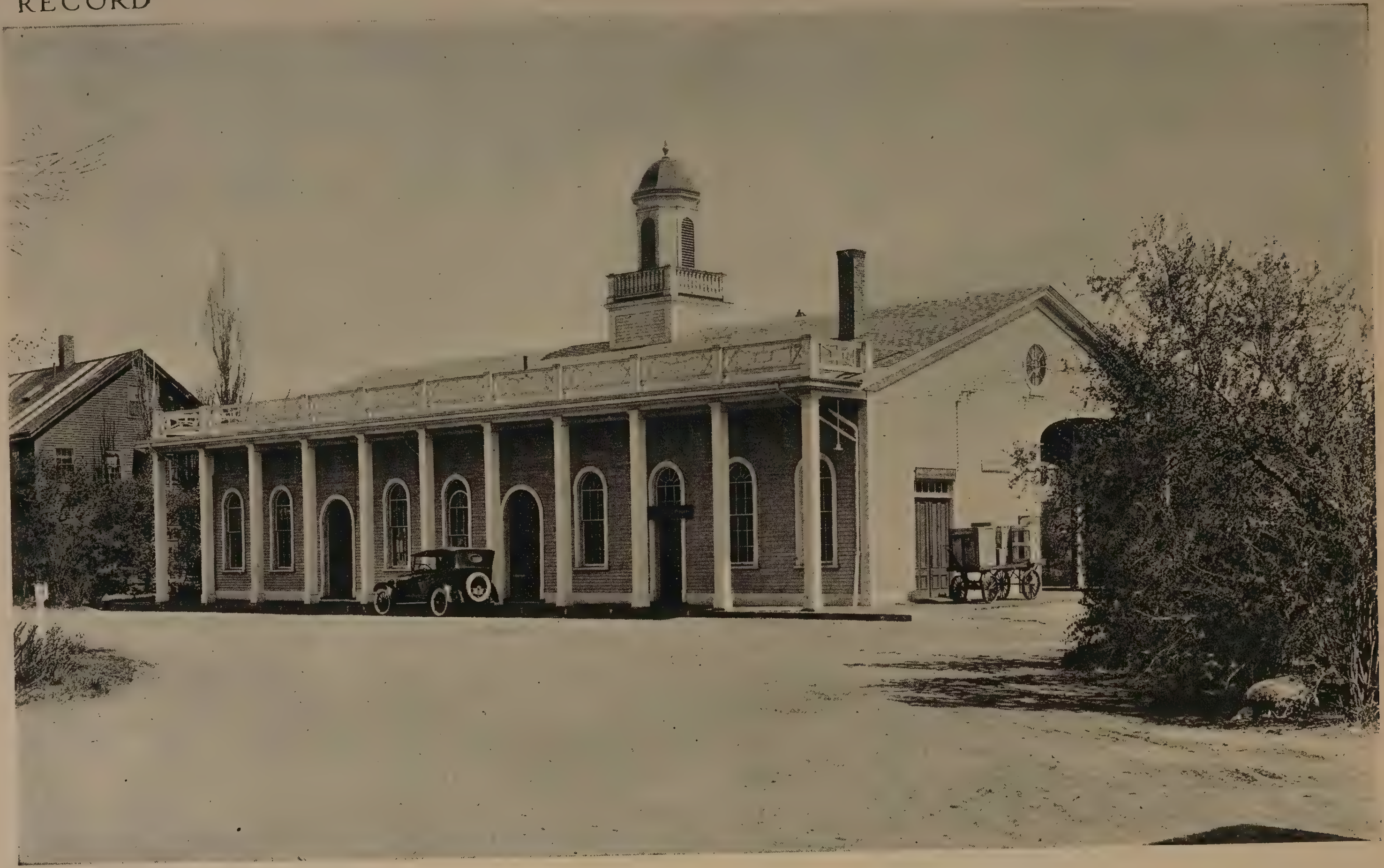
McLanahan and Bencker, Architects



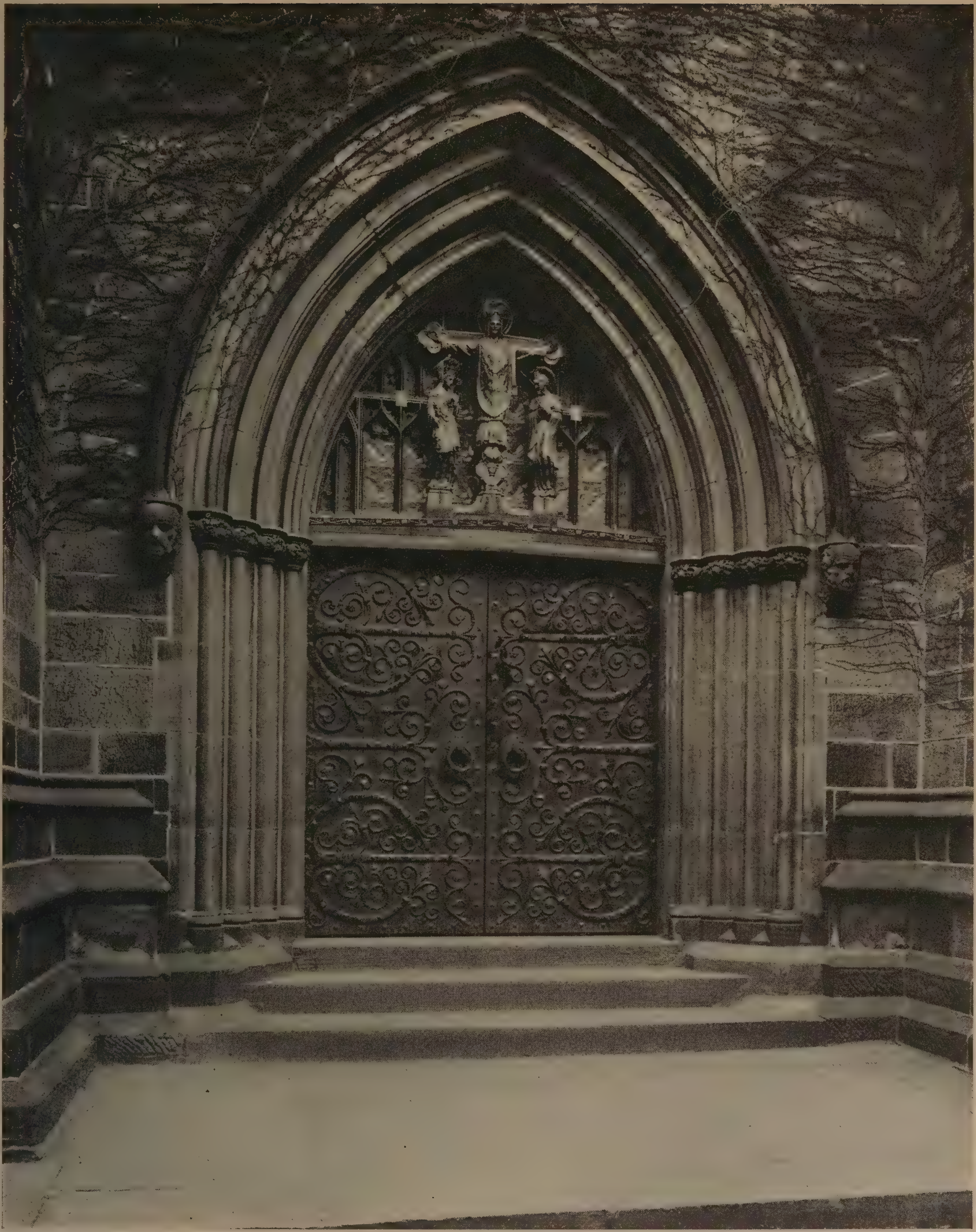
Entrance

EQUITABLE TRUST COMPANY, ATLANTIC CITY, NEW JERSEY

McLanahan and Bencker, Architects



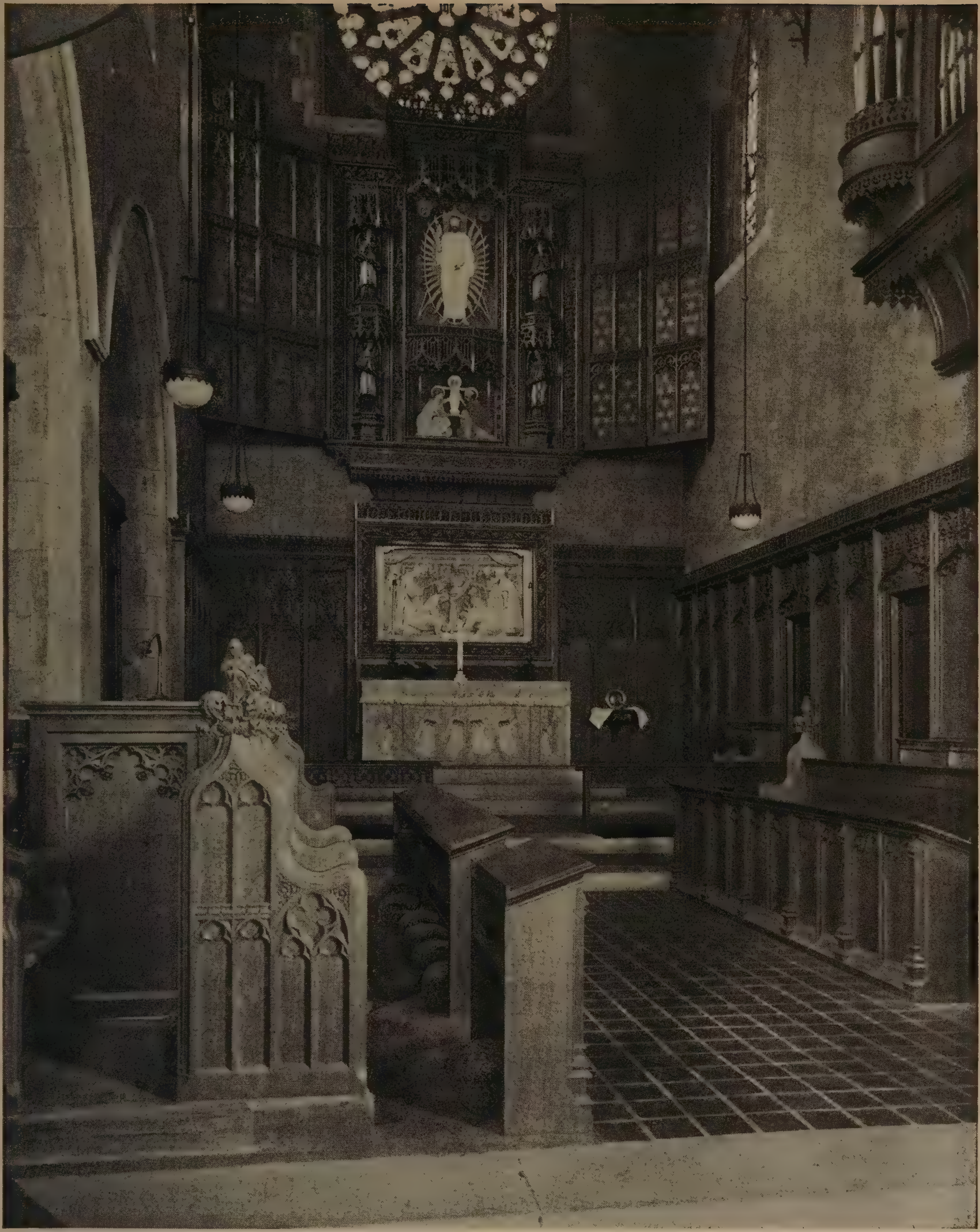
BOSTON & MAINE RAILROAD STATION, LEXINGTON, MASSACHUSETTS
Kilharn, Hopkins & Greeley, Architects



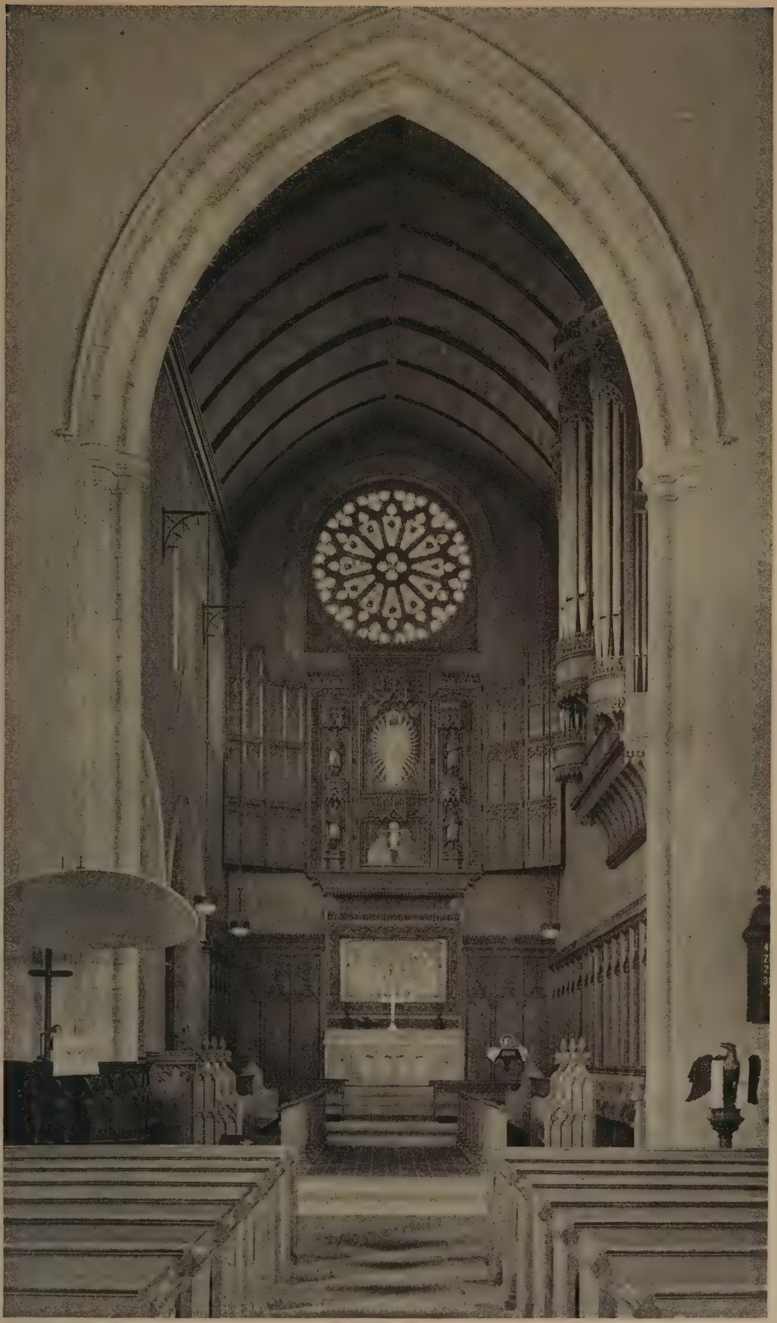
Memorial Door in Tower

ST. MARKS CHURCH, PHILADELPHIA, PENNSYLVANIA

Zantzinger, Borie & Medary, Architects



CHURCH OF THE MEDIATOR, NEW YORK
The late Henry Vaughan, Architect



CHURCH OF THE MEDIATOR, NEW YORK
The late Henry Vaughan, Architect

ANDALUSIAN GARDENS AND PATIOS

By

Mildred Stapley and Arthur Byne

Photographs and Drawings made expressly by the Authors

Part IX.

The Garden of the Duke of Medinaceli, Seville

THE two most important old Sevillian palaces with gardens are known popularly as the *Casa de Pilatos* and the *Casa de las Dueñas.* The first belongs to the Duke of Medinaceli, the second to the Duke of Alva; two ancient titles by the way, which head the list of Spanish nobility.

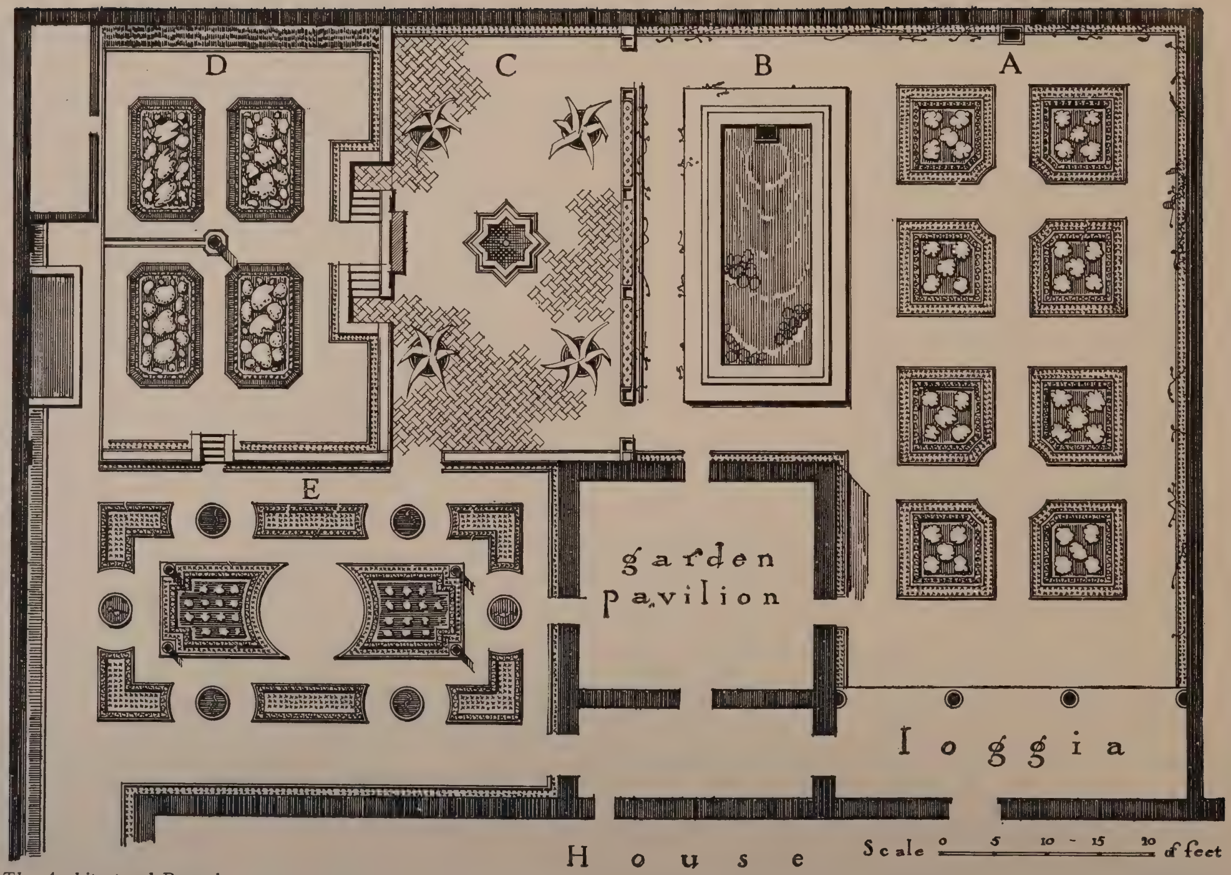
Intermarriage of these two ducal houses with the powerful Ribera family of Seville explains the present ownership. In the late fourteenth century the Riberas, who lived in princely style, bought the Dueñas mansion, its owner having to sell it in order to ransom his son from the Moors of Granada. The new owners continued the building on a magnificent scale and at the same time built the Pilatos Palace, which was supposed by Sevillians of the period to be a copy of that once occupied by the Roman governor of Judea. It is the garden of this latter that first claims attention.

If built in any other country in the sixteenth century both houses would have been in the Renaissance style and accompanied by Italian gardens. In Seville, where architects and gardeners were Moors, all is a mingling of Moorish and Christian elements. The main patio of the Pilatos house has no planting, for which reason it is less attractive than that of the Dueñas; on the other hand, the gardens surrounding the house are finer.

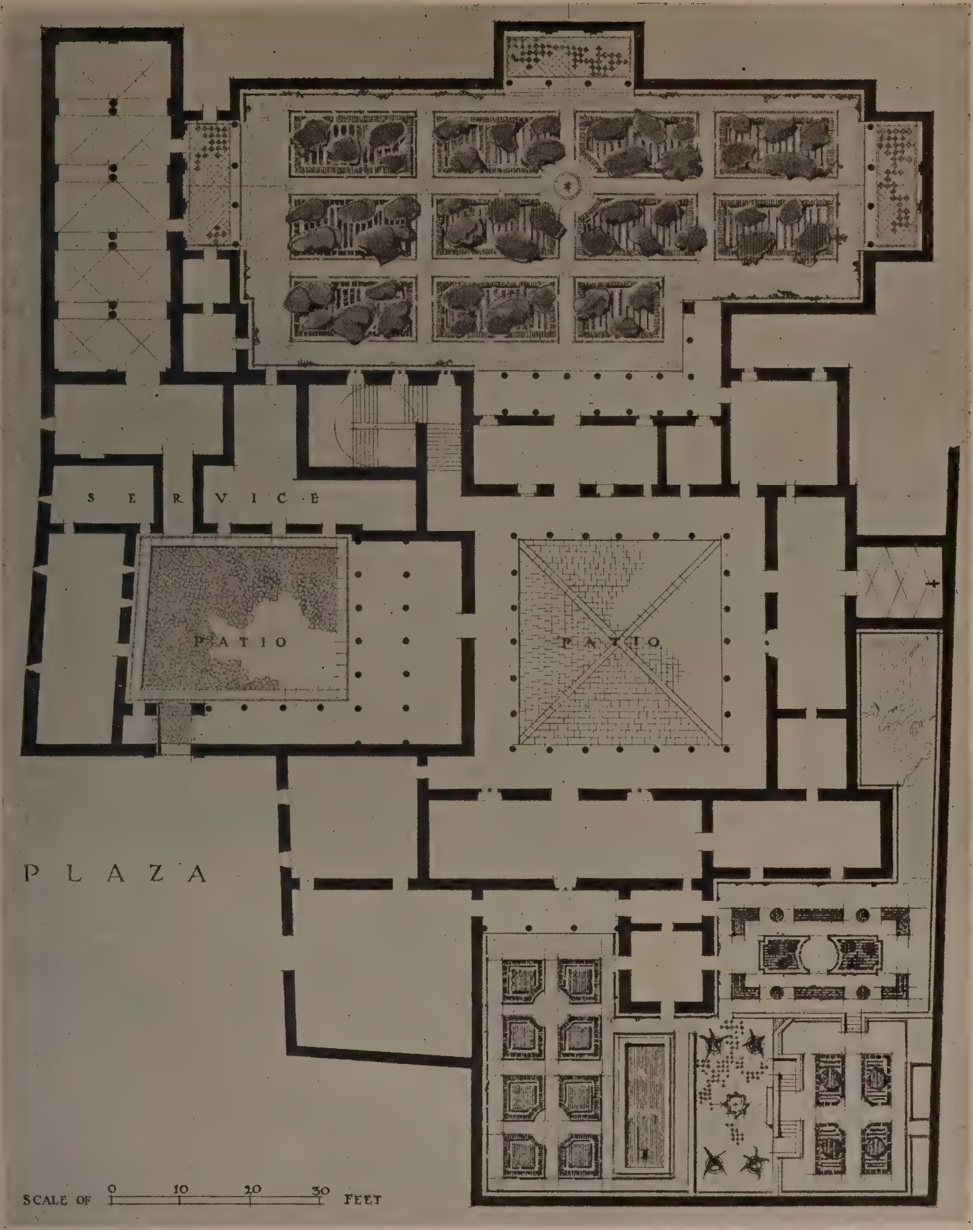
These, representing but a fraction of the original grounds (which suffered bombardment in the uprising of 1840), consist of two distinct parts: the tiled to the southeast and the green to the northwest. The former is distinctly Andalusian, the latter European in a nondescript but very agreeable way. The Andalusian might be described as a Spanish triumph in backyard treatment, for the space devoted to it abuts on the rear of a street of humble dwellings. It is surrounded by an exclusion wall, all white like the house; this averages twenty feet in height, leaving little more than the picturesque rooftops of the neighborhood visible. (Madrid might learn a useful lesson here; hardly a palace in the capital but has a sixty foot "spite wall" on one side at least of its grounds, which, even could it be made a thing of beauty *per se,* would rob any garden of scale.) The Sevillian wall in question is surmounted by a cresting and is screened by bougainvillea and black-stemmed bamboo, always particularly decorative against white. The tiled garden at its base is divided into five panels, three of planting, one wholly of tiles, and one given over to the pool (*estanque*). Little attempt was made by the designer to compose them either in relation to each other or to the house. Rather they appear to have been laid out much as one would spread fine old rugs on a floor of irregular perimeter, without the least concern over the resulting discrepancies.

To simplify description these panels have been lettered on the plan.

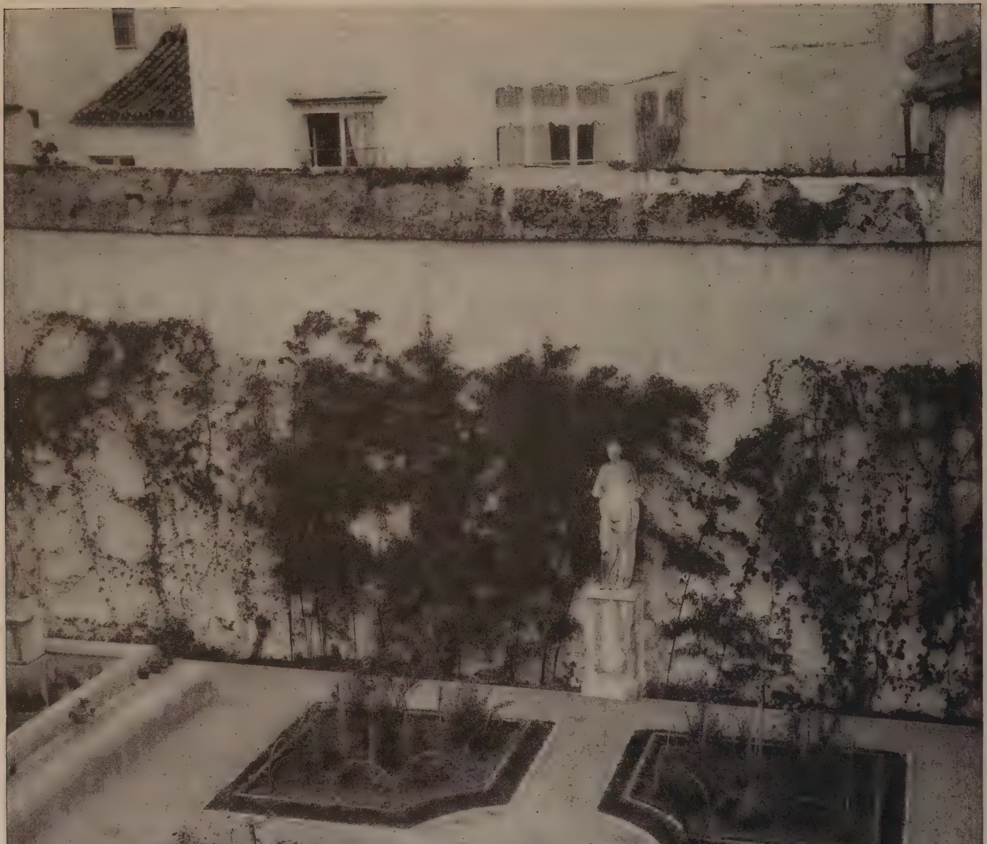
Panel A is a study in limited planting and colored earths—eight garden plots on a court of brilliant yellow clay. Around each plot is a double curb, blue tile and brick, and between the two, deep reddish earth sparsely planted with freesia. Set inside of this to further define the center



Detail plan of the rear gardens
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE



General plan of the palace and garden
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE



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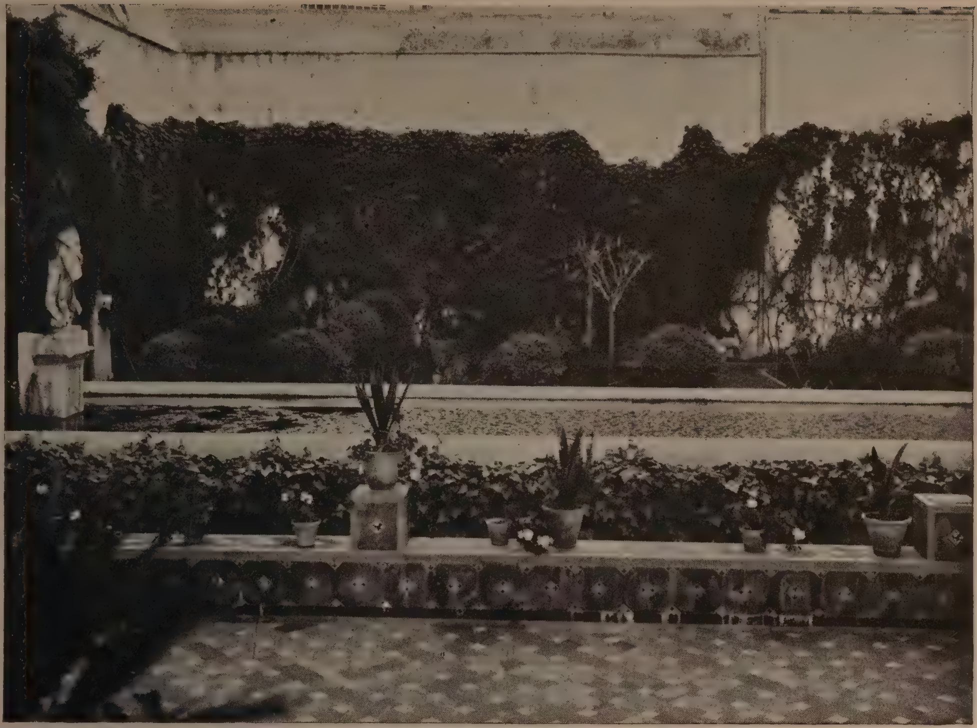
Plot A, with paths of tamped yellow clay and beds of black loam edged with colored tiles
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE

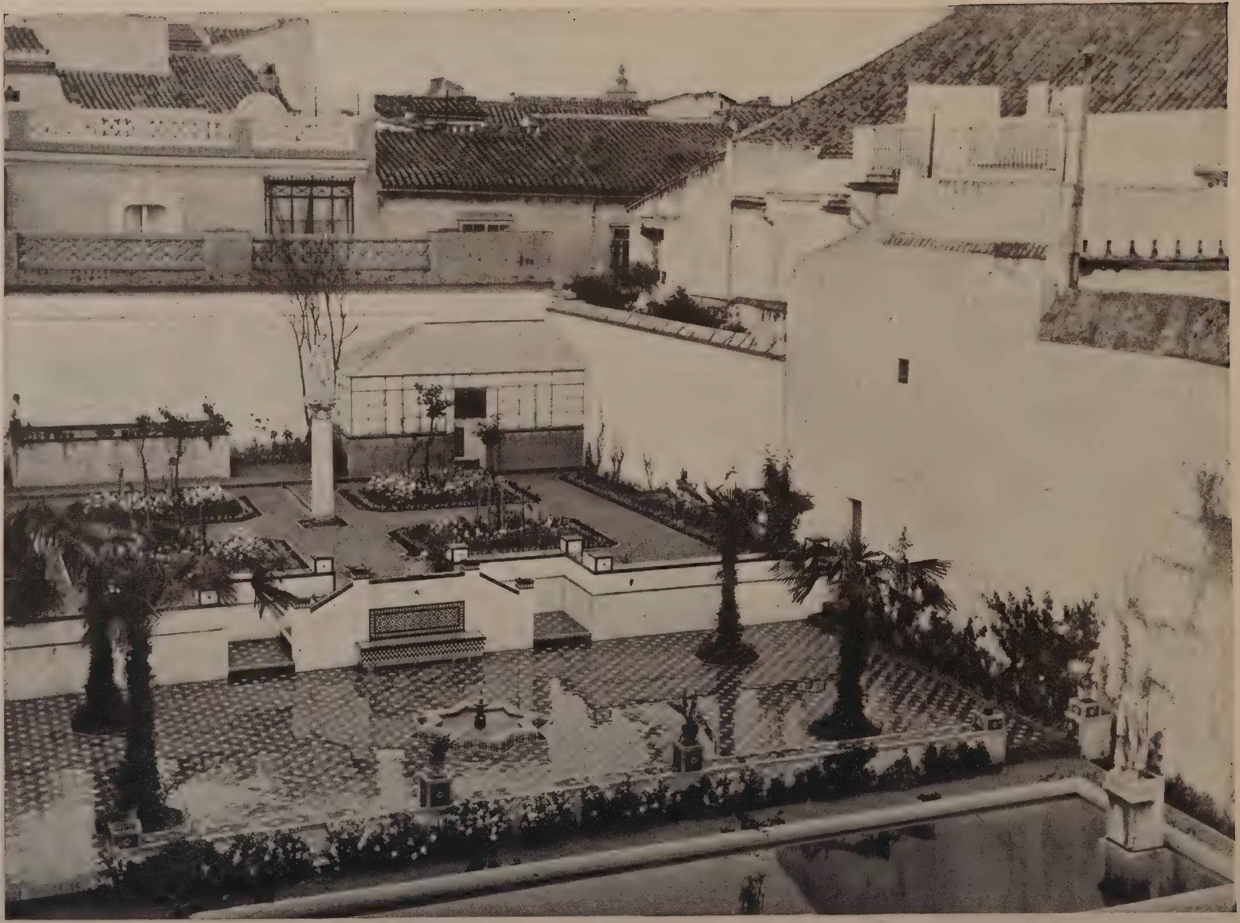


Plot B consists of a long narrow pool edged with ivy and nasturtiums
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE

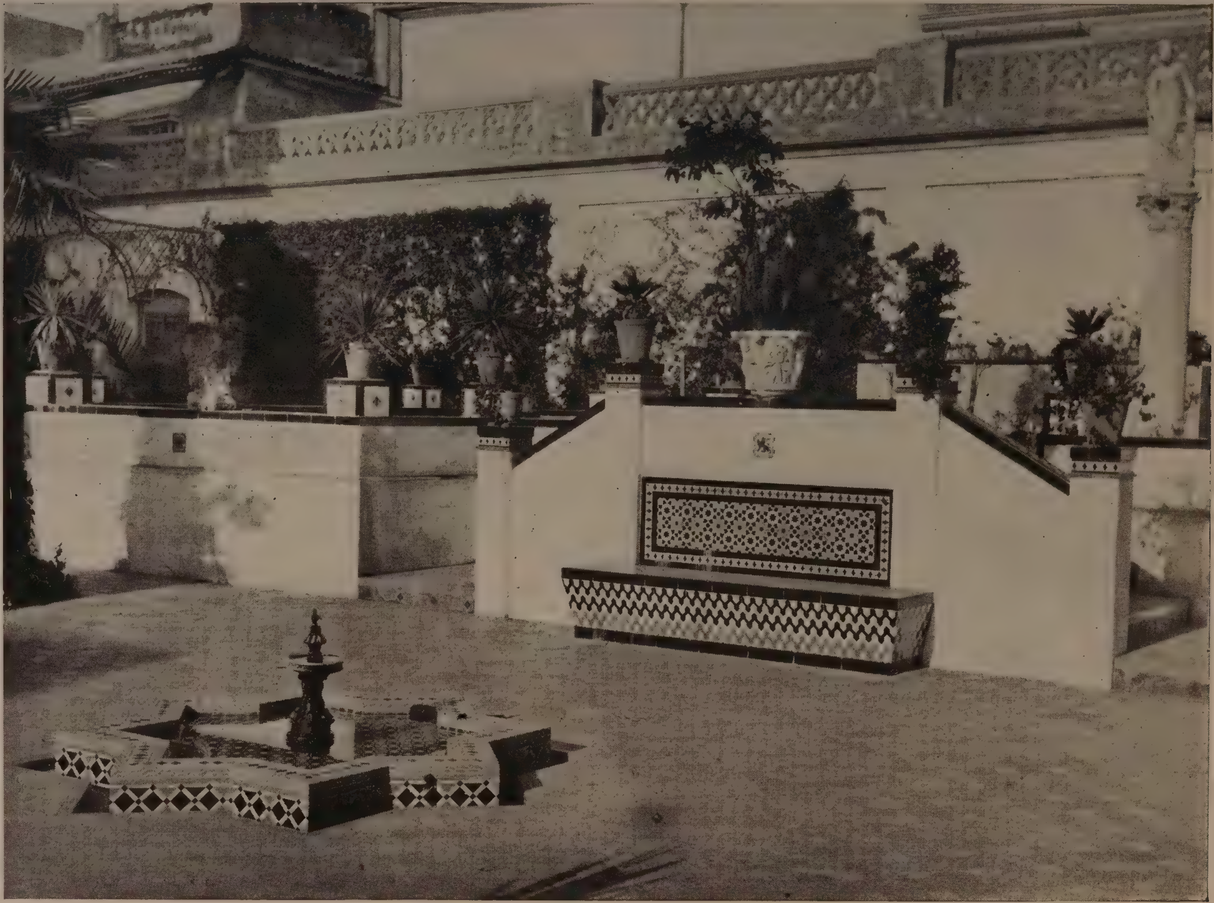
is an edging of green wooden hoops on whose outer side are planted little toy-like clumps of myrtle kept down to six inches. The center itself, of rich black earth, contains a variety of shrubs and flowers, among the latter violets, begonias and sweet lavender; in the corners of each bed and not visible in our photographs of three years ago, are large rounded shrubs. There is no tile fountain or basin; the only feature introduced by way of adornment is the statue at the far end against the vine-covered wall. This is one of the large collection of Roman antiques brought back in the latter part of the sixteenth century by Per Afan de Ribera, Viceroy of Naples.

Panel B is wholly taken up by the pool. Some twenty by thirty-eight feet, it is built of cement with a rounded coping. At the wall end is a fragment of sculpture and the water surface is largely covered with large, flat lily leaves. Dark ivy and brilliant nasturtiums outline the whole pool.

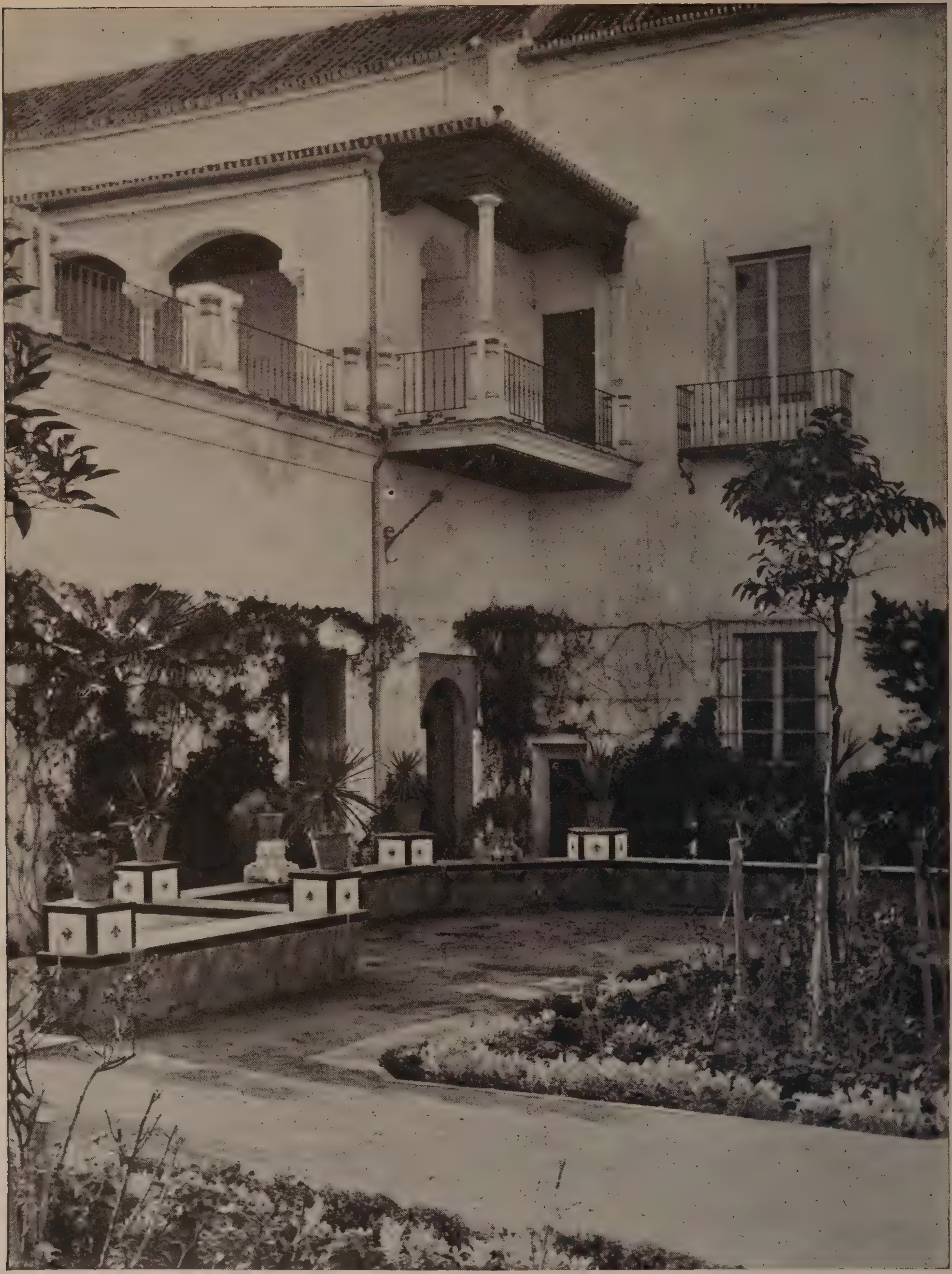
In Panel C we have a tiled garden at its best. The entire area is paved, permitting no other planting than that of a small date palm in each corner. Flat red tiles laid basket-weave with colored insets were used for the pavement. Built-in features consist of the flat central fountain, the tiled bench along the pool side, and opposite, the white retaining wall, edged with green tile, of the corner panel which lies four feet higher. In this wall and on axis with the fountain is the double flight of steps leading up. To emphasize the artificiality of this panel, there is no planting against either the low retaining wall nor the high enclosing wall at the back. The pavement is frequently wet down during the day and glistens like a jewel. "Smart" in its most modish sense is the only suitable adjective to thoroughly describe this area.



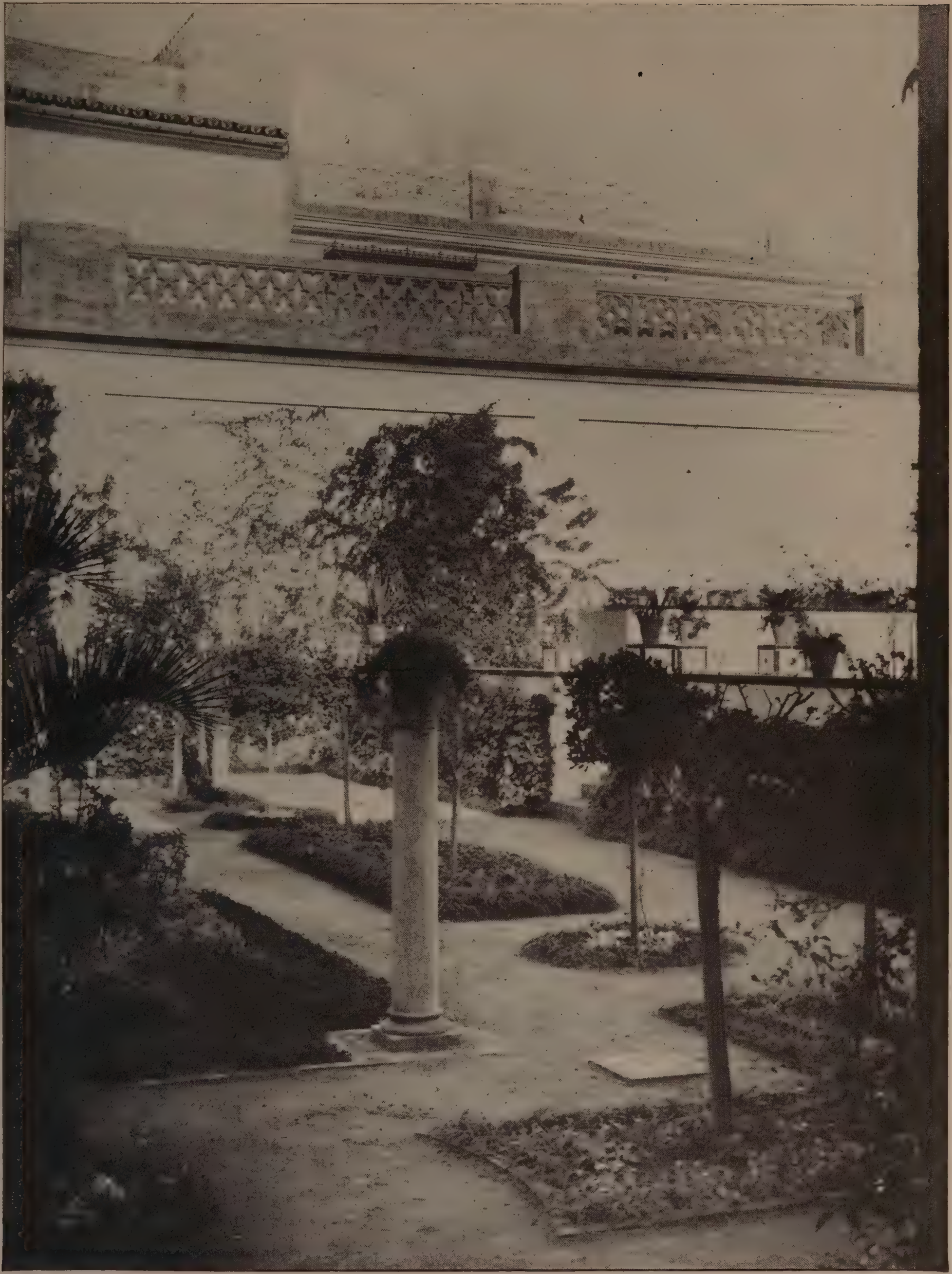
Plots C and D, excellent examples of the Sevillian tiled treatment
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE



Details of Plot C in polychrome tiles
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE



Plot E, a combination of free planting and tile accessories
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE



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Plot D, a clay court set out with beds of close-clipped planting to simulate grass
GARDEN OF THE DUKE OF MEDINACELI, SEVILLE

Panels D and E are laid out with yellow clay paths and trim garden plots edged with blue and white tiles. Ground ivy and myrtle make the borders, and the center is densely planted with herbaceous shrubs. The few Roman and Moorish columns placed about blend harmoniously.

This is a precious bit of Andalusian gardening, and for its restoration the *Duque de Medinaceli* and his architects are to be congratulated; also for rescuing from threatened ruin the beautiful Renaissance iron reja which used to guard a window in a small and obscure rear patio and has now been brought out to a position more worthy of it, affording an excellent view of panel A.

The green garden to the northwest of the house is also to be admired, but is far less striking than the one just described. Like the loggias of the palace which so agreeably face on its several axes, the arrangement of the plan reflects Italian influence; in the details of planting and paths, however, we see the local tradition. The tiled paths are set almost a foot above the general level to permit of irrigation; and with this same end in view the earth is banked in patterns like miniature labyrinths. With the planting practically limited to deciduous shrubs and trees the garden has a quite European look.

Garden of the Duke of Alva, Seville

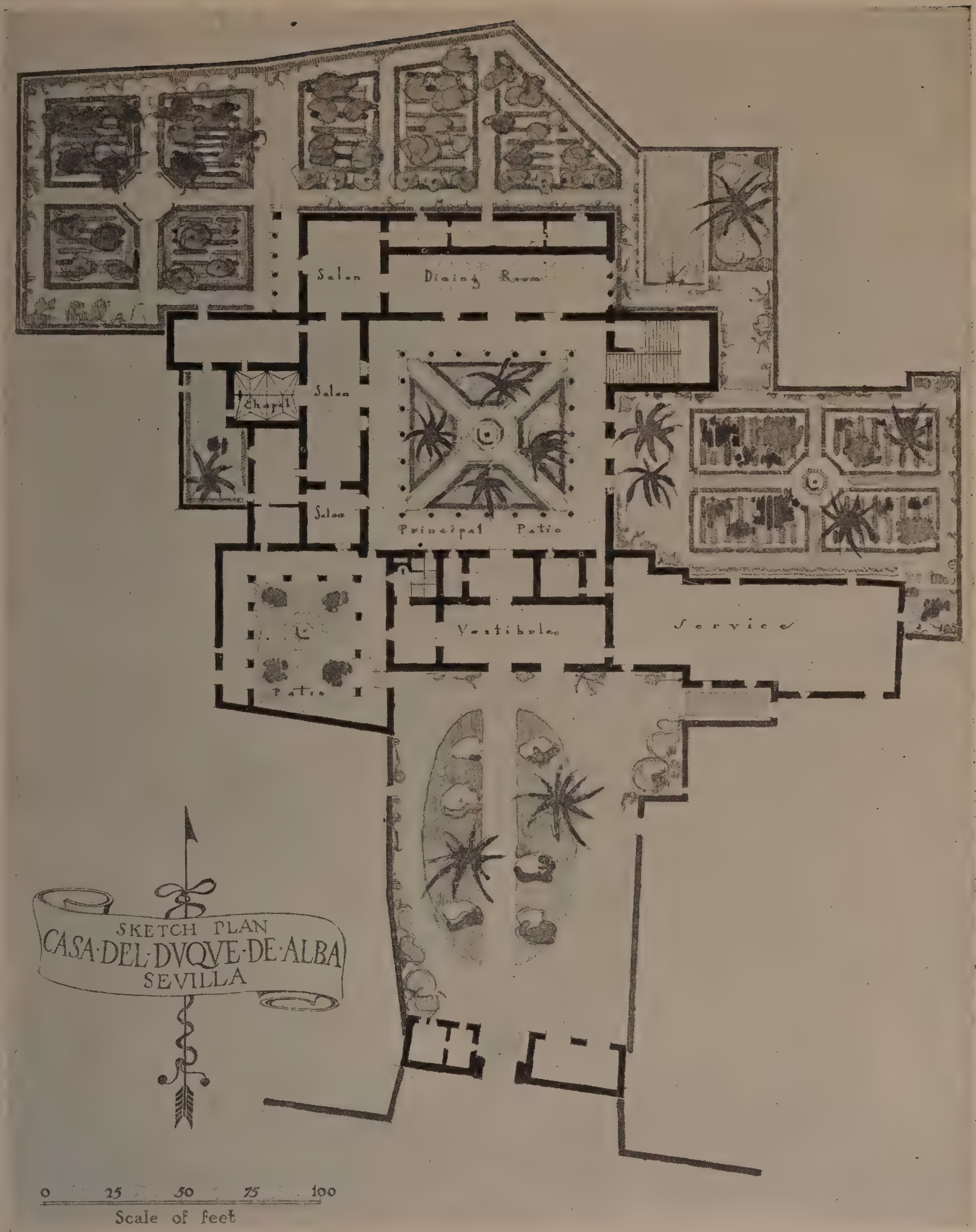
The Alva palace is usually referred to by the name of the small street, *Calle de las Dueñas,* from which it is entered. According to records it was once of much greater extent and contained no less than sixteen patios. Now it has but two. Perhaps, like the Pilatos palace, some of it was demolished during the uprising against Isabel II, and the large forecourt, so rare in Spain where palaces were placed flush with the street, may once have been occupied or enclosed by buildings. Neither forecourt nor façade is specially interesting; in Moorish fashion the attractions are reserved for the interior patios and the gardens behind.

As seen in the plan, the forecourt is laid out in a planted oval bisected by a straightaway. Around the sides and banked thick against the walls are pepper trees, lantana, acacia, and Spanish gorse. Against the house wall, to the right on entering, is a fine tiled watering trough, an old time necessity which in Spain has not yet given place to the gasoline pump.

Passing through the sanded *zaguan* or outer vestibule the principal patio is entered. This is Moorish in full decadence, rich and luxurious; a little museum of all that Moorish artisans were producing in the sixteenth century for Christian masters and hence classified like the Pilatos patio as *Mudejar*—carved plasterwork, wooden ceilings, and azulejos. (As to this last item, those who are interested in Moorish lustre can see in the family chapel to the left of the patio the finest tiles with gold reflections (*reflejos metalicos*) left in Spain. The patio garden is simple in contrast to the architecture. Paths are placed on the diagonal, thus not calling attention to the fact that the entrance is off center; at their intersection is a built up basin of colored tiles around a marble fountain. Originally the paths were laid in mosaic of polychrome marbles. When it became necessary to repave, unglazed brick was used, but a few panels of the mosaic were saved. As seen in the bird's-eye view, planting is reduced to a minimum. Beds are of black earth and outlined by dwarf box. Ancient date-palms tower high overhead, at their base a circle or star-form planted in lilies. The intervening area is neatly dotted with little tufts of dwarf juniper. All is set out and kept up with great precision. Lining the parapet of the patio are hundreds of flower pots, whose contents vary with the season; in either carnation or chrysanthemum time they form a veritable cresting of brilliant bloom to the wall.

A minor patio off to the left has never been refurbished and is none the less attractive for that reason. Surrounded by a plain brick pavement is a mellowed old basin built up of emerald green and purple tiles. This coloring along with that of the raised violet beds is in delightful contrast to the immaculate walls.

To the right of the entrance-patio is a typical Spanish screen-wall separating



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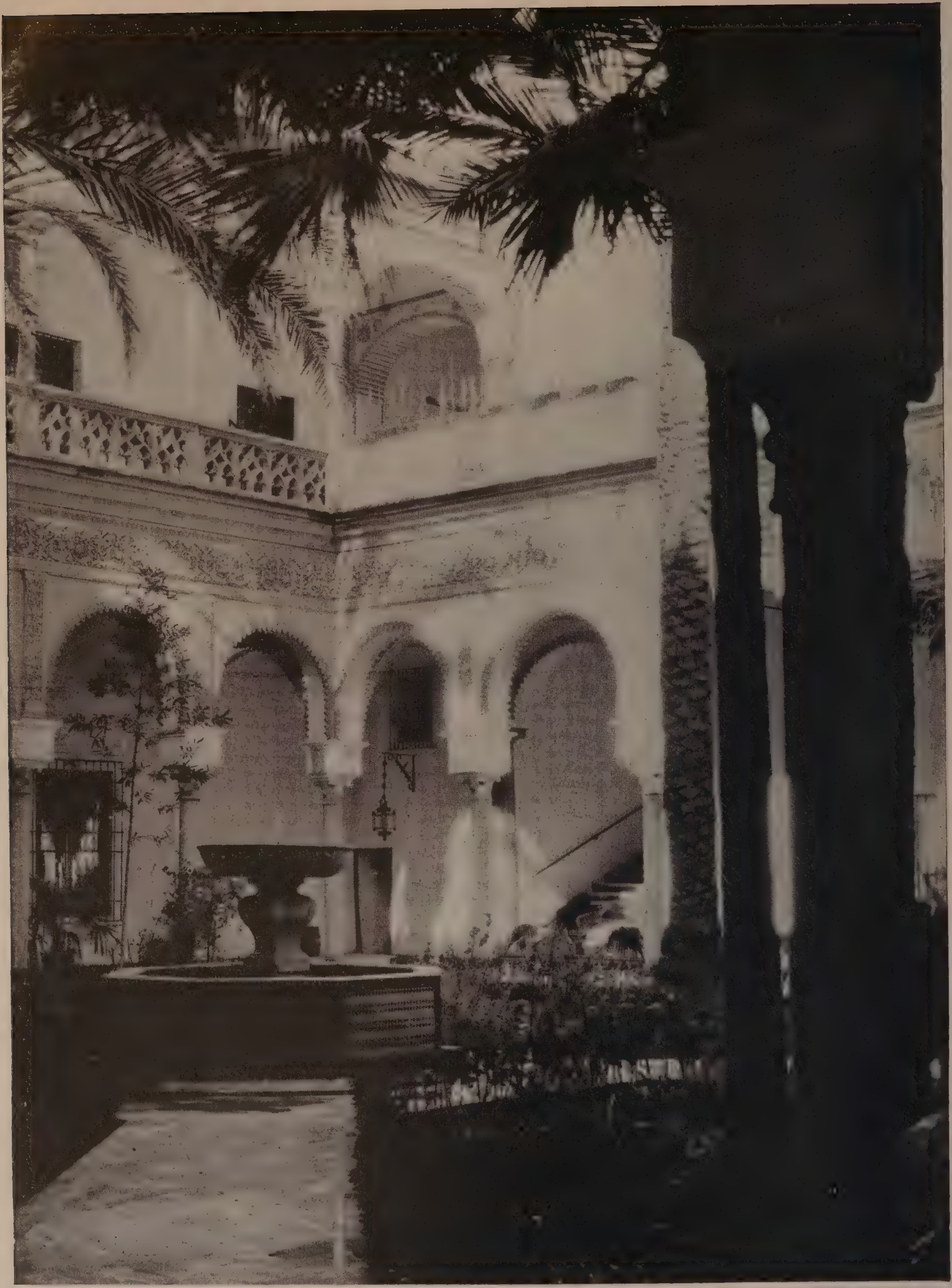
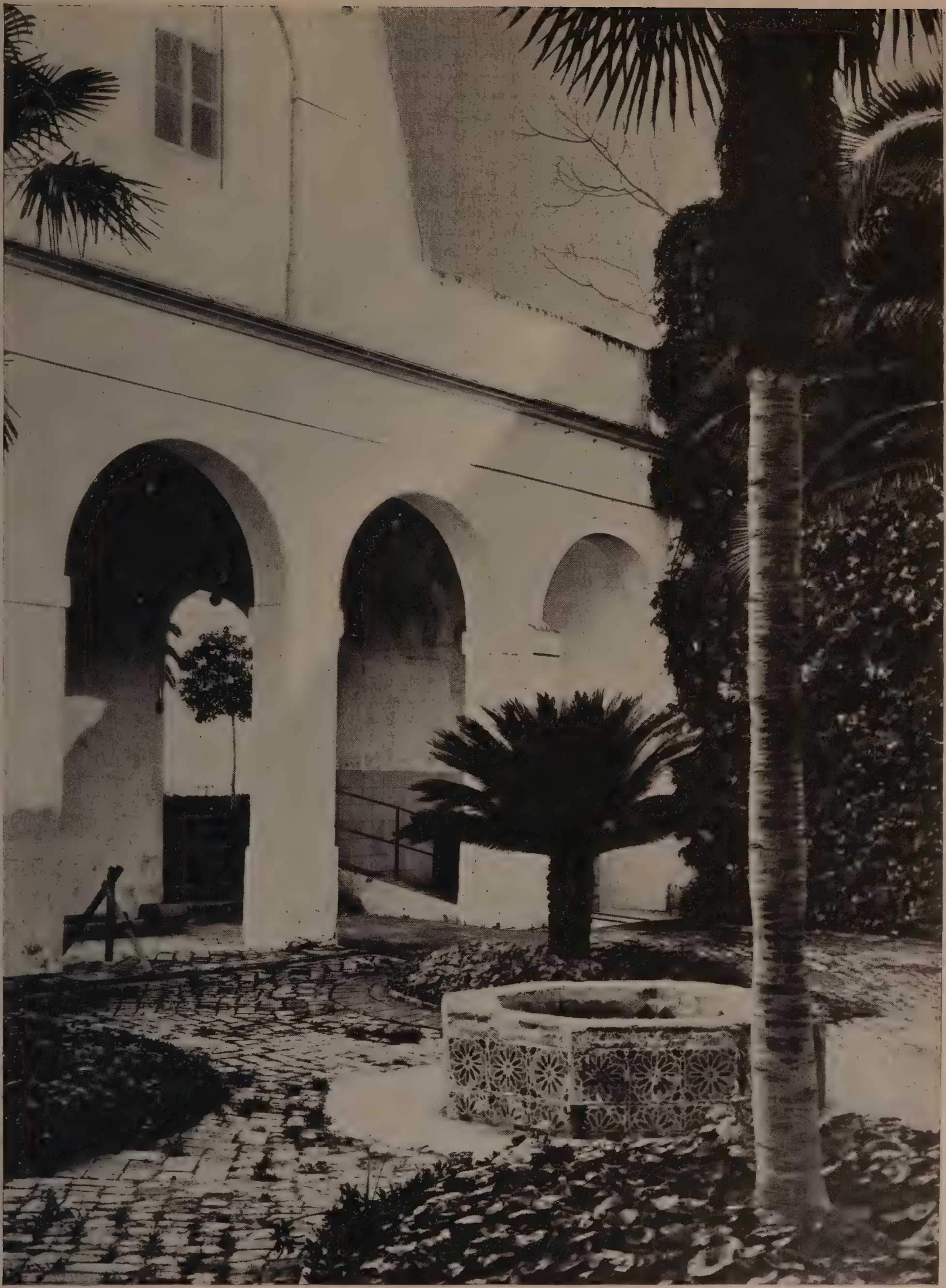
GARDEN OF THE DUKE OF ALVA, SEVILLE

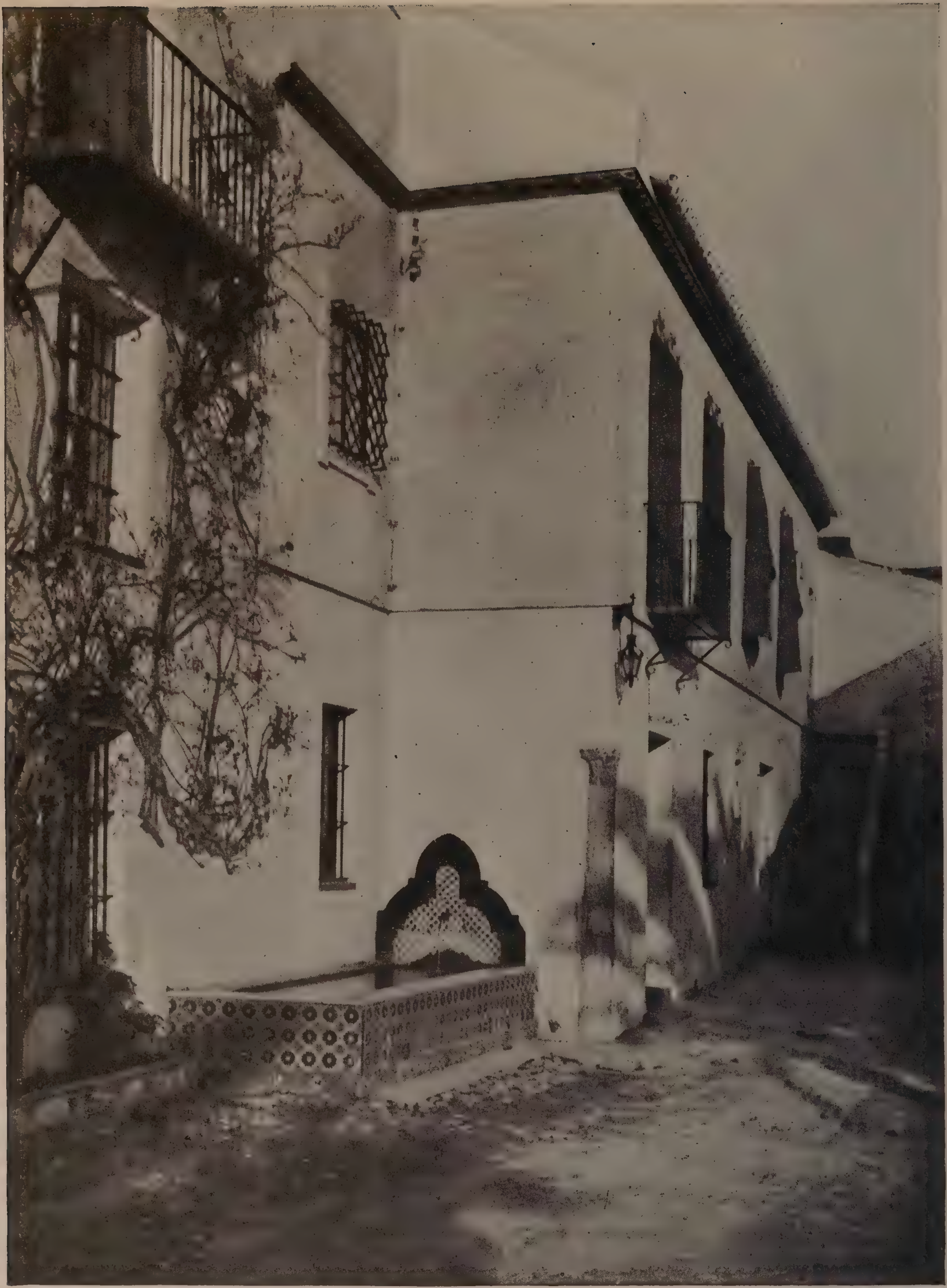


Principal patio of the Alva palace. Diagonal paths divide the court into four plots outlined with dwarf box

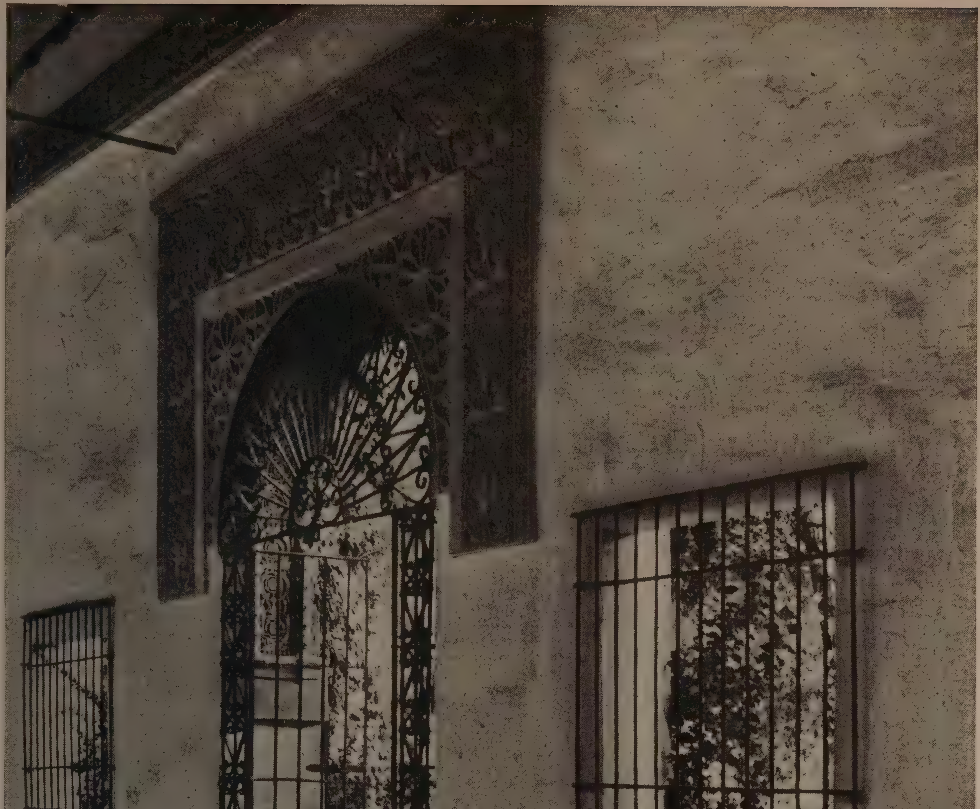
GARDEN OF THE DUKE OF ALVA, SEVILLE



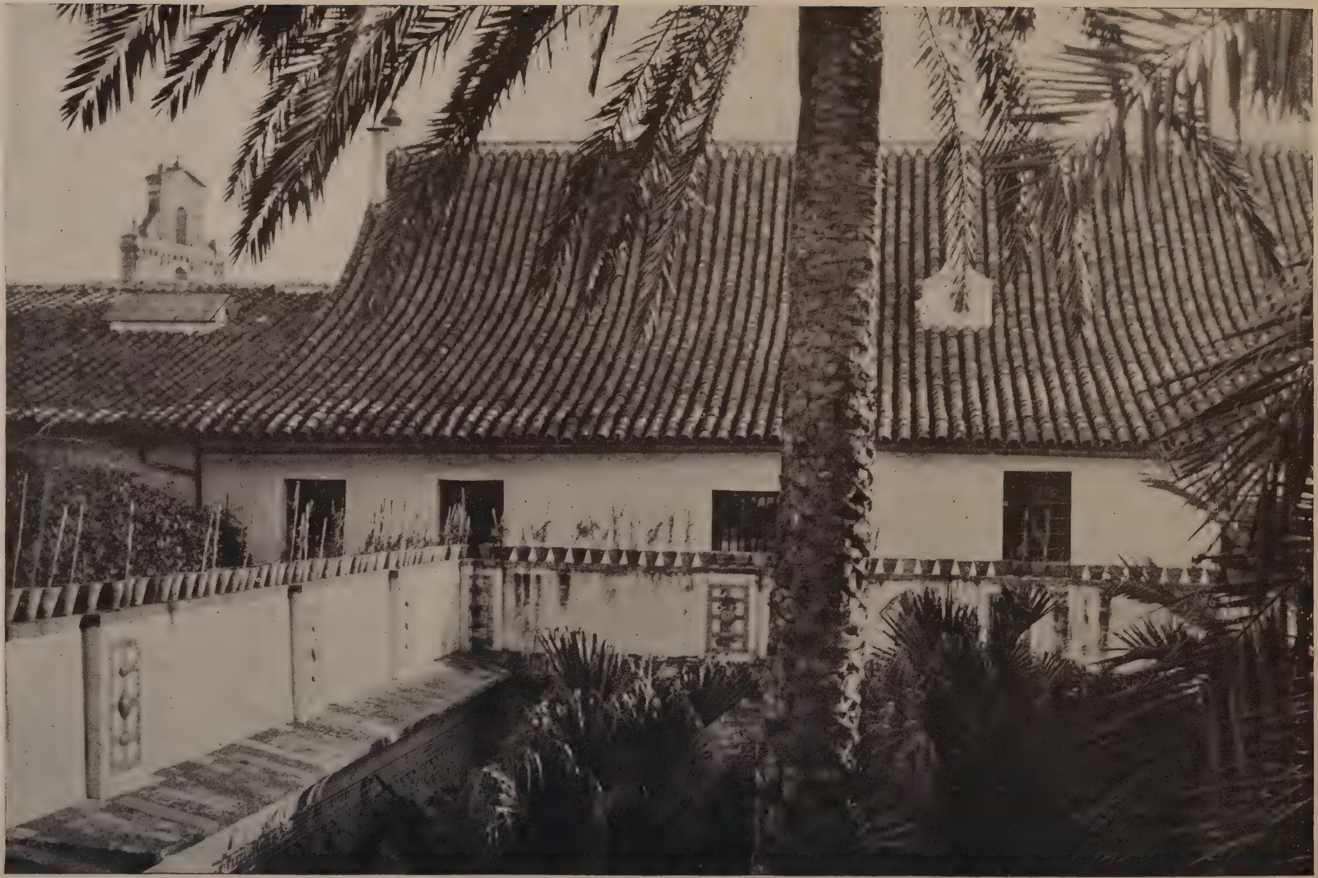
A minor patio in the Alva palace, planted with bougainvillea and violets
GARDEN OF THE DUKE OF ALVA, SEVILLE



Front garden of the Alva palace. Watering trough of polychrome tiles
GARDEN OF THE DUKE OF ALVA, SEVILLE



The Alva patio, with iron grilles towards the garden
GARDEN OF THE DUKE OF ALVA, SEVILLE



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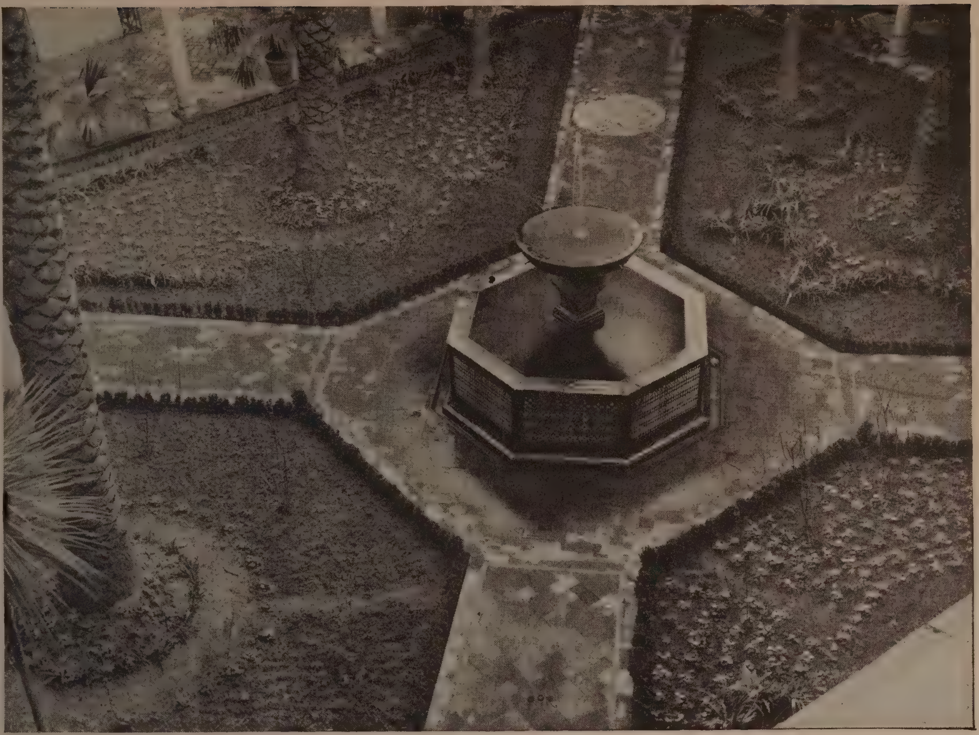
Gallery overlooking the Alva patio, the whole parapet set out with potted plants
GARDEN OF THE DUKE OF ALVA, SEVILLE



The Alva patio seen from the gallery. Grass being difficult to grow, the plots are dotted with diminutive clumps like "hens and chickens"

GARDEN OF THE DUKE OF ALVA, SEVILLE

the house from the grounds. Through its several grilled openings nice perspectives may be obtained of the garden beyond. This is quite informal and consists of four main plots with the usual fountain in the center. The beds, outlined with hedges and shaded by lofty palms, supply the cut flowers for the house. Passing around the staircase wing and by the pool one enters the irregular garden precinct at the rear. Here planting consists almost exclusively of orange trees, and to permit of their constant irrigation, the paths are raised high above the level of the ground. Along the walls of the house are pleached geraniums growing to a height of twenty feet. Azulejos are conspicuous by their absence, and the whole effect is that of a rustic grove rather than of a city garden.

In examining an Andalusian plan it must be remembered that the house is divided horizontally into summer and winter quarters. Into the lower or summer story very little outside light and no sun are allowed to enter. Nearly all the openings give onto the patio whose planting and fountain helped to cool the air. The lower rooms themselves often have floor fountains whose open conduit leads out to the patio basin. In the case of the Dueñas plan the large dining hall across the back has the benefit of both the patio and the garden, one end, that towards the pool, having been left open in the form of a loggia.

The ARCHITECTURAL SIGNIFICANCE of the RICE MILLS of CHARLESTON S.C.

By Samuel Lapham, Jr.

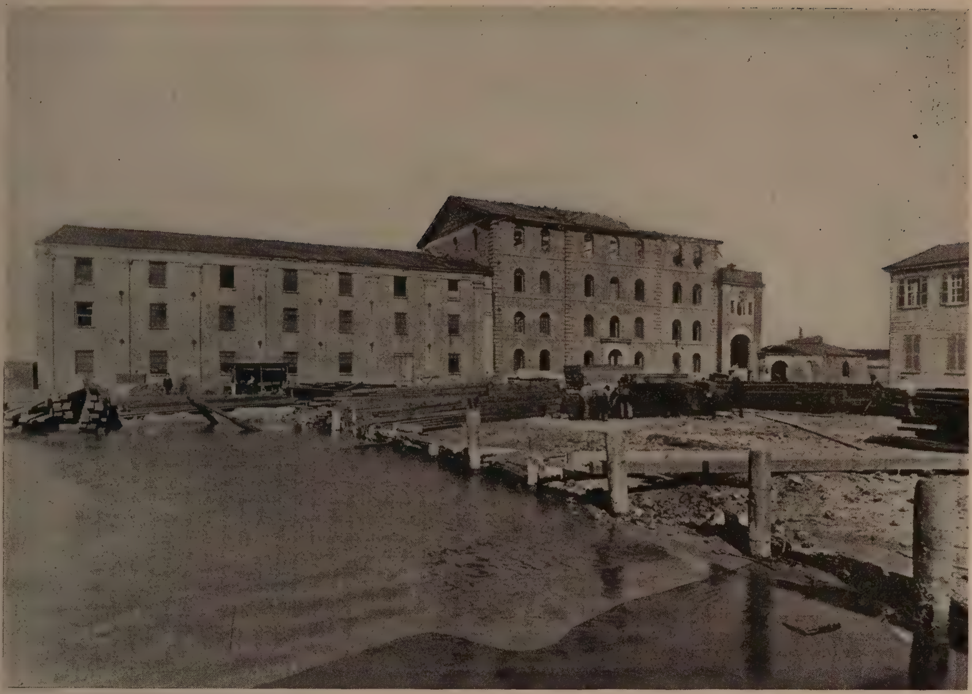
* * *

IN THE INTEREST taken in the work of our architectural forefathers, one can but note, either from the wealth of material in certain fields or its application to present-day uses, that particular types from the days of the Colonies and the Early Republic are stressed in the published records to the proportionate exclusion of others. A casual glance at almost any work on American architecture will reveal this tendency. For the most part, they will be found to cover domestic and religious architecture with a glance at such public buildings as Independence Hall or Faneuil Hall. Therefore, to the general public at least, it would seem that our early architects stopped short with these types.

It should be remembered, however, that our early American architecture, until the Civil War, was all-inclusive, a natural movement and not an artificial one. Its spirit was not applied to the three abovementioned types of buildings and left there. It spread over the entire face of American architecture that existed in those days. It touched all branches of architectural endeavor and left its mark thereon. Since that day some of these branches have grown greater and have developed off-shoots that were never dreamed of, then. Modern architecture has its garage architects, its hotel architects, its factory architects, specialists without number. In short, it has its field of industrial architecture.

Industrial architecture is a division of particularly modern origin for the most part. It is an evolution from the requirements of a full-grown nation, not of a new-born nation in a virgin country. Specific demands for service, a trade field, quantity production and an economic profit on investment are among the things that must be obtained before any phase of effort becomes a true industry. As such, practically no manufacturing nor trade industry existed in the days of the colonies, nor in the republic of the 18th and the first quarter of the 19th centuries. The Chicago *Tribune,* General Motors, the Cunard Line, Bethlehem Steel, did not and could not exist to build up each a type of industrial architecture. Such struggling manufactures or trades in the period of our history from 1700 to 1825 had no group action that demanded headquarters and coöperation; they were individual practitioners and, as a result, no industrial architecture in its true sense existed. The New England clipper ship might have provided a Colonial Cunard Building, but not being a corporation, their riches, transformed into architectural desires, took the shape of the homes of the sea captains of Salem and Newport. The New York farmers needed no produce storage building; the Virginia planters built plantation homes, not cotton exchanges.

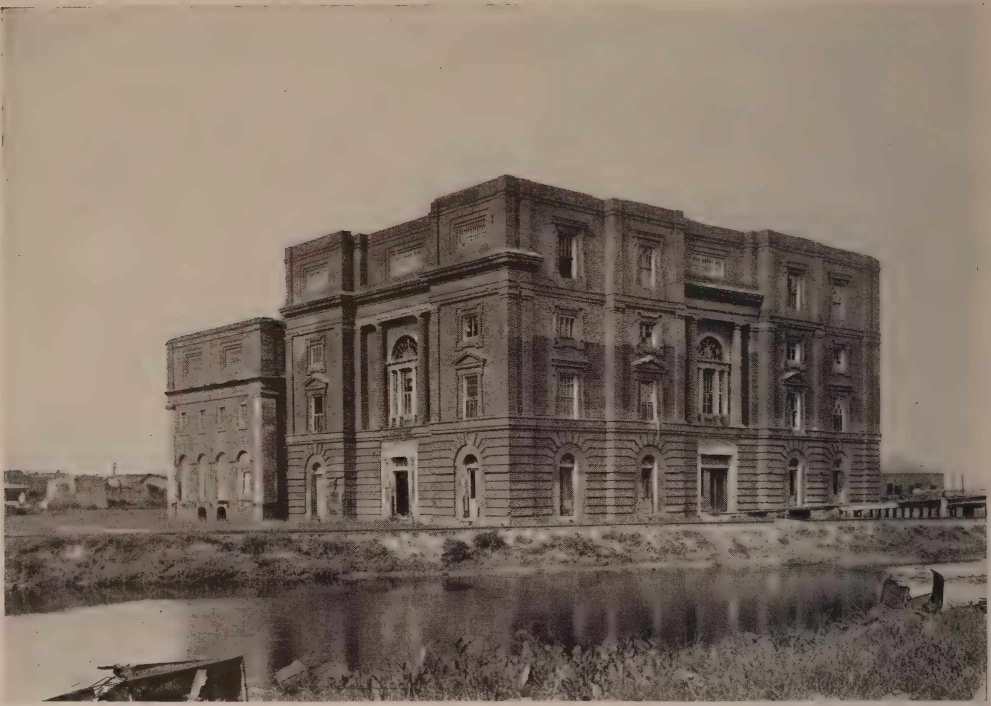
In South Carolina, however, a field for coöperative dependence in place of entire-



CHISOLM'S MILL (1830—DEMOLISHED 1916)

ly individual effort had come into existence. The rice industry, first introduced between 1694 and 1700, had grown by leaps and bounds. By 1765, the colony was shipping 100,000 barrels yearly to forty-four ports of its trading world, whose outer edges were London, Lisbon, Quebec and Honduras. At first it was prepared for market by hand threshing and pounding, but by 1800 the demand grew so great that the machinery had to meet the demand. Wind, tide and, in 1817, steam were progressively applied to provide the power required in preparing a large supply for the consumer. But efficient machinery was large and costly. The small planter could not afford it and, though all of the large-scale plantations had their own mills, to the owners of the great majority of middle-sized plantations an efficient mill, though necessary for their own crops, was an unwarranted outlay for the return it gave. Thus coöperation became necessary and the greater cost was met by group action. Mills were erected near the common shipping port by those who could furnish the cost of construction, either individually or in groups. Once in operation, the rice of those owners could be prepared for market at the lowest rates while the rice of those who had no machinery could follow at a price that gave profit to one party yet meant a saving to the other. Mutual dependence was thus established to be rewarded with a stream of wealth. From the inland swamps, and from the diked river marshes, the flood of rice moved toward the mills in a tide of fortune that lasted for three-quarters of a century.

Here were met all conditions for an industrial architecture. The economic requirements of demand, supply, transformation of raw material and profits made wealth not of individual effort but of a coöperation that had responsibilities to meet and money to meet them with. Protection of its clients' products, upkeep of machinery, quality of output and competition with rival concerns had to be provided for, all of which meant a true though small-scale industry. And with industry, came the earliest specialized industrial architecture with its problems of design and mass for solution on a vaster scale than the architects had been generally accustomed to use. Further, these were problems that must be solved to the artistic satisfaction of clients having a full knowledge and appreciation of taste learned from a refined yet virile domestic architecture, eager for each new popular style, yet expecting something not one whit less in accord with aesthetic standards, as far as fundamental design went, than that to which they were accustomed in their residential and civic architecture. It is to give, possibly, a little further light on the ability of our architects of the first half of the 19th century, whose domestic works we cherish so highly, that this article is written. It is hoped that it will show them in a field not so well covered by architectural writers today, and prove that the problem presented was not beyond them, but merely gave them an opportunity to show more of their skill and greater proof of the adaptability of their style.

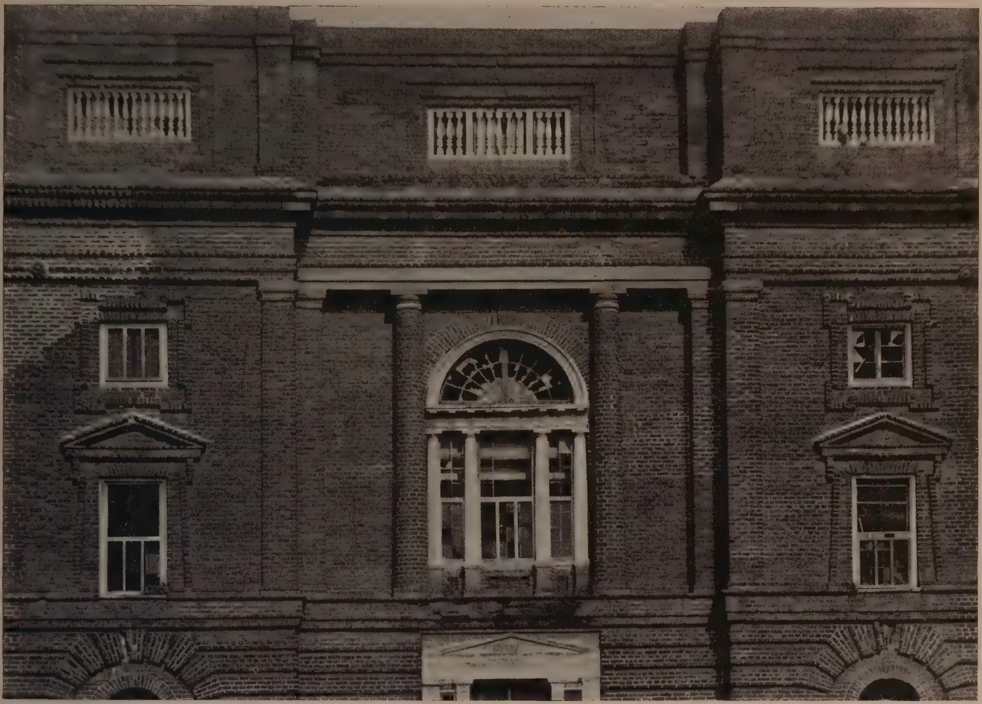


BENNETT'S MILL (1844)

Of the many mills built in Charleston before the Civil War, two remain today, together with the wing of a third, whose main building was demolished in 1916. Fortunately, a photograph of this building in the course of destruction was secured by the writer through the courtesy of Mr. H. L. Beck, Superintendent of the 6th Lighthouse District, as the Government owns the property today. Thus we have an interesting series of three mills, built at intervals of about fifteen years reflecting in their architecture the same procession of style that we have seen pass in domestic architecture.

These three are Chisolm's Mill, (1830—destroyed 1916), Bennett's Mill, (1844), and West Point Mill, (1860). The wing of the first is now the storehouse of the 6th Lighthouse District, the second decays as a ruin on the eastern waterfront and the third, awaiting destruction for some modern purpose, operates occasionally, as the flood of rice is now but a dribble under changed conditions, and the cheaper product of the Louisiana uplands. All three are proof of a distinct type of building whose spirit can best be described as Early 19th Century-Georgian-Colonial-American (call it what you will) architecture in a generally unrecognized industrial phase. The actual architects of their design are unrecorded.

Chisolm's Mill is the earliest of the three and in the effort to meet the new problem of design, it shows certain residential touches. The architect, facing his new problem seems to have carried with him instinctively his standard forms. The quoins, long established in Charleston, since they appear on domestic work as early as 1733, were brought to the new proposition. Although stretched out for four stories in height in place of two or three, they still give accent to the corners in spite of the resulting thinness. The Corinthian modillions of the eaves and of the rake cornice, although unexpected, give a pleasing light effect to the large area of roof and add grace to the whole mass, unbroken save for the severe rusticated fortress entrance and heavy pediment, which had a circular occulus. The massive walls of brick are otherwise unadorned, yet, by skilful relation of solid and void and a consistent use of circular headed openings, a sense of scale together with a spirit of combined vitality and repose was created that are most satisfying. The value of the design of the main building is, if anything, accentuated by the loss of that spirit in the wing, where pilaster and bay construction combined with square-headed windows make a rapid approach to the lifeless factory buildings of today. The mill as built originally was damaged by fire in 1859 but was repaired



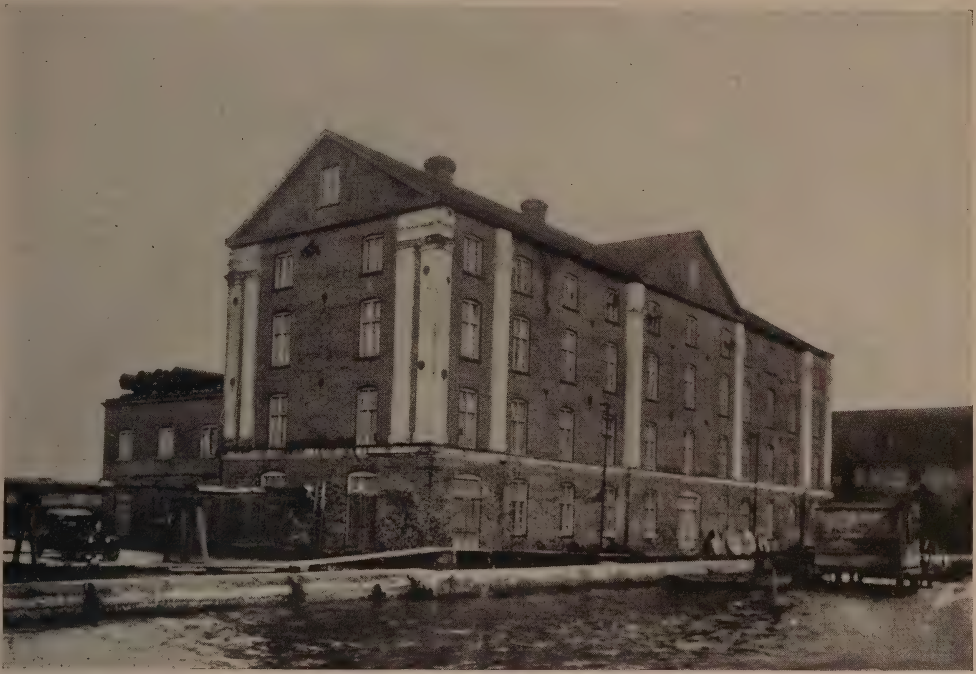
DETAIL OF FAÇADE—BENNETT'S MILL

and in operation within the year, so it is probable that the engine tower with its stifled Scamozzi window and out-of-scale entrance was a replacement of that date. The pilastered wing is possibly a decade younger than the main building as that was the time of the vast expansion in the industry and there is a hint of Greek Doric influence in the brick caps and cornice. The lowering of the aesthetic standard in the secondary or wing building, although adjacent to the main building, will be found to occur in all three mills under consideration.

The Classic Revival was fully established in South Carolina after 1840 and at that time Gov. Thomas Bennett was one of the richest of the low-country plantation owners. He doubtless wished a mill that would surpass in design any of his rivals' and Bennett's Mill, built in 1844, succeeded in that respect. His designer turned instinctively to the Italian Renaissance type as expressing the desired spirit. It was the day when whatever was copied from books on the architectural detail of Greece and Rome was correct and sought after. The architect turned to Palladio, to Scamozzi, to Inigo Jones, to any thing he could find on the Renaissance in Italy. But, somehow, out of this scramble of many pieces he made something of his own. For that, we can forget we find traces of a copy of one Italian palace window in one place, an idea from another palace next to it, and a suggestion of a third somewhere else, all translated into brick. It makes us pass over the amusing accentuated Greek touch of the slanting jambs of the second story window frames, which as much as say—"This is to let you know that I have the Greek and Graeco-Roman forms at my disposal as well as the pure Roman ones." In spite of this he caught the spirit of the purpose of the building and made it instinctive of its calling in every line, and proved himself a true architect.

But along with this accomplishment common to all, in varying degrees, the architect of Bennett's Mill did more. He did not simply express its purpose behind a screen of copied details. Somehow, he breathed a glamour of romance over a structure built for storage, mechanical power and production. It is not a mechanical plant that we see in the tropical twilight. His Renaissance details, his masses, his voids and solids with their play of light and shade, blend against the sky and fade into the night mist and we have a castle of transformation, worthy of Poe, a castle where unseen obedient dragons, grind the white silver of the rice and transmute it into gold behind the still waters of the tarn. It is as perfect in its way as is Mt. Vernon, where, around a barn-like structure, there always dwells the atmosphere of periwigged gentlemen in gay coats and knee-breeches, who, hand on sword from the broad veranda, bow ladies into their waiting coaches. The Chateau of Chambord was said to be a Fata Morgana in a wild woody thicket; Bennett's Mill could equally be a Piranesi in a marshy plain.

In detail the Palladian window, although badly weathered, is beautifully done and is a wonderful example of scale, as well as the focal point of interest. It is almost a copy book example of the Mutulary Doric order. The use of the full column instead of a pilaster under the arch is an odd touch, but the sense of strength gained more than compensates for the loss of line. The richness of the window is added to by the simplicity of the plain flanking panels of brick and the large brick columns. These with their stone caps and lintel are beautiful examples of a high degree of craftsmanship in a common material, for the bricks are roughly ground, and except at close range, the line of entasis is satisfactory to the eye. The only weakness is in the entrances, where the architect's skill deserted him and his attempt at mass simplicity in wood became almost childish. This is accentuated by the refinement of his rustications, where he even provided an impost moulding to support the outlined curve formed by the quoined ends of his rustications meeting an imaginary arc around his circular-headed doors. It is of interest to note that in Bennett's Mill appears the American or running bond at a time when all other brickwork in the city was being done in Flemish bond. Even West Point Mill, fifteen years later, as well as all residences at that time were still being laid up in Flemish bond. If the building was more removed into antiquity it would be a temptation also, to point out that in the spindled ventilators is the symbolic representation of the waving fronds of the rice fields at harvest time, but not being located in Egypt, we can only say that the architect might have had that thought in mind.



WEST POINT MILL (1860)

Sixteen years later we come to West Point Mill, built in 1860, the time of the greatest decade in the rice industry, when three and a half million bushels were marketed. A decided change has taken place in the character of the building, and while its proportions, as a whole, are good, and its mass is imposing, something has departed that the two elder mills had in spirit. The degree of change is great compared with the slight loss that can be observed in a comparison of the domestic architecture of 1844 with that of 1860. We must remember, however, that once turning, the tide of taste would subside and show the change the quickest in the area in which it was of the least fundamental importance to the daily life of the people.

The massive pilasters of West Point relieve it from being an uninteresting mass, its pair of huge octagonal chimneys are marvels of brick construction and its proportions are good, but there is a feeling of something lacking. In the window openings we see a rapid approach to the segmental-head factory type, but being casements with transom heads, an almost modern French touch is imparted to the front. Beroofed after many hurricanes, with no trace of the original cornice left; shaken by the earthquake of 1886 and strengthened after that catastrophe by tie-rods whose plates detract from the general effect, we cannot be too strict in judgment. We can say that a decline has taken effect and utility alone, without other regards, was soon to become the first thought. The sole variation from a set standard throughout is relegated to the rear, where between the chimneys is an impoverished Scamozzi window, rather cramped and decidedly out of scale with the rest of the openings. It is a far call from the giant Palladian window of Bennett's Mill, but although slowly dying, the old instinct for a mark of importance somewhere still held, and into the building it had to go. West Point was the last and largest of the great rice mills. The main building of Chisolm's Mill was 90 by 70 feet, of Bennett's Mill, 90 by 65 feet, of West Point, 142 by 42 feet, exclusive of the rear projections. One year after West Point was completed, the Civil War came and loss of wealth and of labor spelt the decline of the industry, hastened after the war by western competition. The new industries arising in other parts of the country in the architectural darkness of the '70's and '80's sought and cared for strict utilitarianism only, and their buildings became and still remain industrial construction only with no trace of industrial architecture.

This article has made no effort to present a study of these mills in regard to their plans, but is an archaeological treatise on early mill engineering. One cannot but mention, however, even to the most rampant disciple of paper design, the sheer strength and beauty of the timbers of all three of these mills. They are pieces of lumber of pure beauty. In places there are timbers polished to a sheen by the falling grains of rice pouring over them through the years, resulting in a finish that the hand of man could never equal.

There are pieces of 4 by 14, 8 by 14, 13 by 16, 14 by 18 inches, all-heart, long-leaf pine, single sticks, thirty, forty, fifty feet long with no defect or blemish on them, that make our present-day mill timber seem scantlings made of pulp wood by comparison. In the half gloom, among the vast spaces of the towering openings between stories is an opportunity for a Pennell or a Piranesi to make sketches that will embody the spirit of wood, as the one has already done for steel and the other for stone.

The subject is by no means exhausted but we have merely attempted to call attention to a phase of our early architecture, not well known, yet a link in our architectural history. One can but feel that the buildings give proof of the versatility and adaptability of our first architects and show that their sense of design was equal to all occasions. The mass, the scale, the proportions of these large structures are handled with a sure touch and a true realization of values that make them worthy of study today. The architects were faced by a problem calling for treatment of surface and mass, almost equal to the areas and volumes found in our smaller industrial plants of the present time. They solved their problem with the same skill, success and beauty that made their work a landmark in the domestic field.

CONTROLLING ECONOMIC FACTOR IN CURRENT BUILDING

When the economic history of the United States during the period immediately succeeding the war comes to be written, its controlling tendency will undoubtedly be described as the growth of the cities at the expense of the country and of industry at the expense of agriculture. There was a long stretch of American history ending in the last decade of the nineteenth century, in which the urban and the rural population increased at an approximately equal rate, and during which the American nation remained predominantly a democracy of landowning farmers. Then there followed a couple of decades during which, although almost all the increase in population gathered in the cities, the agricultural population at least held its own. But since 1919 not only has all the growth in population and wealth concentrated in the cities, but the cities have been draining population and wealth away from the country. It is estimated that at least two million people who before the war were living on the land now derive their support from urban industry; and the end is not yet. Unless existing economic tendencies are checked, agriculture in America will continue to deteriorate, and may become as relatively negligible in the economic and social life of the country as it now is in Great Britain.

These considerations are, of course, a matter of great importance to all people who derive their living from the building industry. It has enjoyed during the past five years a period of great and profitable activity. At the end of the war there was a shortage of housing of all kinds; and the shortage was increased after 1920 by the prosperity of the cities as compared to the country. Indeed many economists believe that it was the revival of building, following as it did so quickly on the slump of 1921, which restored comparative prosperity to American industry. At any rate the volume of building has been until recently exceptionally large. Yet apparently the supply of new buildings for all purposes has not exceeded the demand. There may be no actual shortage of housing similar to that which existed in 1919, but there is certainly no surplus. Rents are still rising in most of the large towns and cities of the United States. Yet people are found who occupy the houses and pay the rents. There has been a tendency recently towards a smaller volume of general business and a slightly lower scale of prices, but business contraction, in so far as it exists, is not a reaction, as it was in 1921, from general expansion of credit and prices. It seems rather to be the indirect result of temporary excess of manufacturing and industrial energy and equipment, which enables the cities to produce more consumable goods than the country as a whole can buy at current prices.

The present business reaction may or may not endure, but it certainly suggests the wisdom of the adoption by business men connected with the building trades of certain precautions. The migration of population and wealth from the country to the city, and the consequent expansion of industrial and building operations, is not proceeding on a permanent and a wholesome basis. It has already produced a political insurrection on the part of the western farmers which is embarrassing the two older parties in carrying on the government of the country, but quite apart from its possible political effects, it is creating unmanageable conditions in the cities which cannot become much worse without bringing about an economic crisis. For one thing, the cost of housing in the larger cities is becoming so high that there is no way of building habitations which really poor people can afford to occupy. For another, in cities like New York and Chicago street traffic is becoming so congested that within a few years drastic measures will have to be taken to relieve it. These measures will be enormously expensive and will increase the burden of urban taxation and the cost of urban living to an intolerable extent. There is certainly no sufficient anticipation of the critical economic and social problems which are being created by the quick and huge growth of the cities at the expense of the country.

In our opinion the result will almost inevitably be a steady slowing down of the rate of urban growth. The cities cannot continue to gain in population and wealth at the expense of the country, as the American cities have gained during the past five years, without injuring disastrously their own domestic markets and without destroying the balance of the national economic life. One of two things will necessarily happen. Either the political leaders of the country will adopt measures which will serve to prevent population and wealth from deserting the land and flocking to the city, or else the nation will find itself plunged into a subversive political agitation which will impair business prosperity and put an end to the conditions which chiefly account for the extraordinary industrial and urban expansion of the past few years.

Herbert Croly.

The American Institute of Architects and the Architectural League of New York announce a National Exhibition of Architecture and Allied Arts, to be held in the Grand Central Palace, New York City, April 20 to May 2, 1925. The Annual Convention of the American Institute of Architects will be held in New York during the period of the exhibition and will convene in the space devoted to Architecture and the Allied Arts. At the same time the Fortieth Annual Exhibition of the Architectural League of New York will be held in galleries erected for this purpose.

The purpose of this exhibition is to bring together the largest and most representative of architectural and building exhibits ever shown in the United States. This display will include all the accessories for exterior and interior adornment for both public and private buildings. The progress in city parks and rural communities will be shown by exhibits from landscape architects and town planners. In addition space will be set apart for practical accessories, such as plumbing fixtures, piping, etc., and structural details, columns, beams, steel work, etc.

The exhibition will prove an educational opportunity by establishing a visual contact with the latest devices and materials entering into the construction and decoration of a building. It will be correspondingly instructive to the building trades and technical professions through the comprehensive survey of the most up-to-date building appliances. No enterprise has heretofore been conceived of such inspirational influence for the whole country as this combined effort of art and industry.

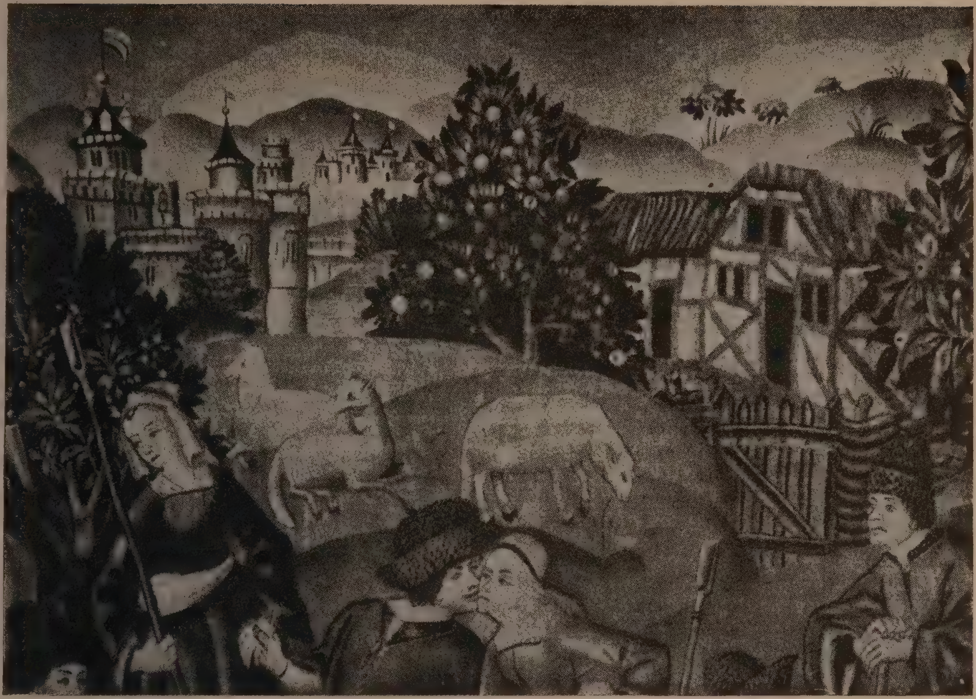
TAPESTRY ILLUSTRATIONS OF SIXTEENTH CENTURY DOMESTIC ARCHITECTURE

At one extreme of the profession stand the architects who are more than half engineers, and at the other the literary romanticists. The former regard design as an afterthought of construction, and ornament as something to be added as the finishing touch. Since this is a mechanical age they naturally predominate, the more naturally, too, since the biggest and best jobs in architecture today are on steel and concrete buildings, where planning is a question of practicality rather than proportion, and stress and strain are more pressing problems than the profile of a moulding.

It is in reaction against the bald and insensitive utility of these structural engineers, that the latter, the literary romanticists, create their fantasies. The existence of so much architecture without charm puts an excessive value on mere charm. Colonnades that have the specious though compelling appeal of abandoned ruins, roofs that curve and collapse like the ill-cared for thatch of old world farm houses, though they are made of shiny new shingles, and plaster laid on with big smears so that no one can miss the hand troweling—all these poetic unrealities in building are the sentimentally exaggerated protest against the mass of our buildings that are all reality and no poetry.

Naturally these vagaries run most unrestrainedly riot in domestic architecture where there is the widest margin for eccentricities, and the tendency has popularized the Sixteenth Century styles that are adaptable to the picturesque. Starting with the manor house, rolling roofs, slanting walls and tilted gables have filtered down now through all economic levels until they have reached even the bungalow. As a result California, especially, is suffering now from an epidemic of higgledy-piggledy peaks on wobbly walls all coated with sticky plaster, frequently in an eczema pink.

Yet it is only a small percentage, after



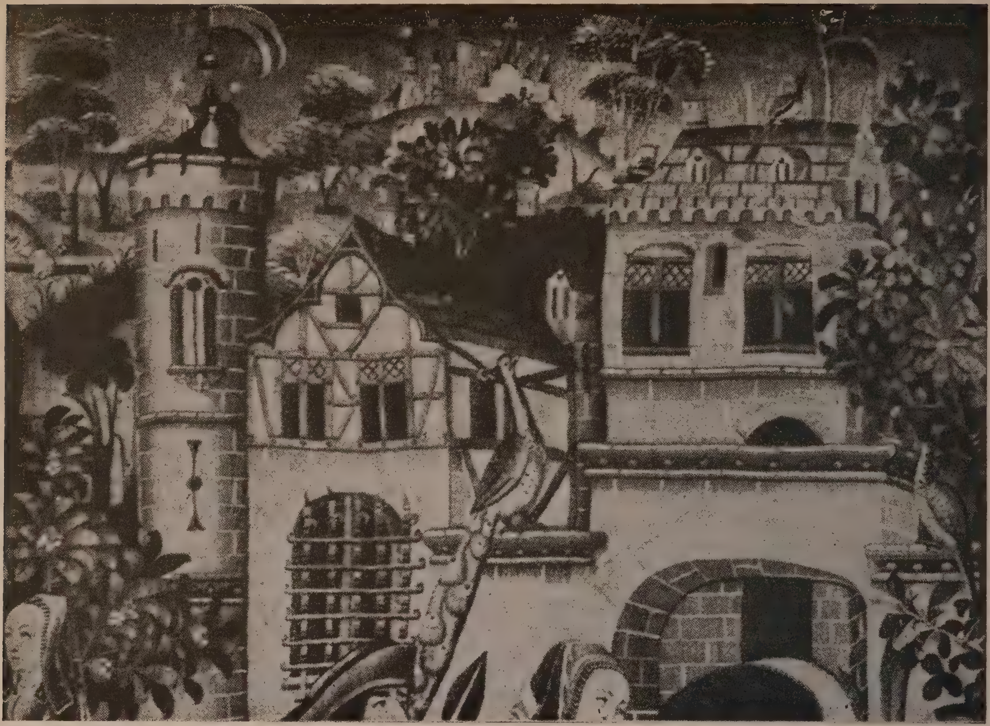
A peasant's hut in the background of a pastoral tapestry, woven in Touraine in the first quarter of the Sixteenth Century, shows charming asymmetries in the beams

all, that differentiates these story-book paper-doll houses from the real beauty of the style. For certainly the truth of Sixteenth Century domestic architecture does not lie in rigid accuracy. It is not the disintegration of age alone that has softened the angles and introduced the irregularities and curves. The half-timber houses of the Sixteenth Century were originally conceived and built on genuinely picturesque lines as is proven by the contemporary illustrations of typical examples.

Some of these Sixteenth Century illustrations of contemporary houses are to be found in paintings, part of the glimpse of landscape through an open door in an Annunciation or edging the sky above a Nativity. But here they are usually small and rather sketchily done. In the tapestries of the period, on the other hand, there are some very accurate records. Architectural features have almost from the beginning of European tapestry been an important decorative element. In the Fifteenth Century the designers used primarily minor details, columns or windows, or an arched dais. But in the Sixteenth Century whole houses were often introduced, especially in the scenes of country life so popular at the time.

Most of these tapestries that show the houses of the time are French, probably woven in Touraine. Ordinarily, they show rather elaborate châteaux, sometimes, as in the great "Hunt of the Unicorn" series now in the possession of John D. Rockefeller, Jr. very beautifully drawn. But occasionally they show also the more modest half timber houses that are of real interest to the architect of to-day.

One of the finest of these Sixteenth Century tapestry half timber houses is in a Flemish tapestry, a "Resurrection" of Brussels weave, in the collection of Mrs. William H. Crocker. This is an excellent example, both because the house itself is good, and because the tapestry is so accurately drawn and woven that the outlines are not at all distorted. And here are unmistakably the irregularities and softnesses of outline that are often credited to time, and for the imitation of which sincere architects have been rather scornfully called romantic. Time has had no chance on this house, for it is contemporary with the tapestry. Especially interesting is the gradually flaring concave curve to the gable, a very subtle curve of a contantly varying axis. Nor is this the sagging of thatch, for a similar outline occurs



One of a series of tapestries illustrating the Carrabarra romance. Note the concave sweep to the roof and the slightly irregular pattern of timbering

again in the half-timbered gable of quite an elaborate French château in a Touraine tapestry representing one of the episodes in the Carrabarra romance, one of a series in an American private collection. Here, too, the roof flares in a concave line that sweeps out in a continuously accelerating curve, and the roof is unmistakably slated. The point is important because hard, stiff roofs are the commonest deficiency in modern reproductions of the Sixteenth Century style, often marring houses that are otherwise very sensitively planned.

Other asymmetries also are interesting in these Sixteenth Century tapestry houses. In some the gables succeed each other with a casual irregularity, which we are apt to ascribe to the successive additions of several generations, yet here it is in houses that must at the time of reproduction have been almost new. Or, if the designer was not drawing from any one specific house, but rather depicting the type, such apparently haphazard compositions must already have been general by 1500 when none of these houses had yet had much chance to grow by accidental accretion. Thus, for example, in a thatched farmhouse shown in the Shepherd tapestry of the Musée des Arts Decoratifs, there is one wide gable at the left, a second one equally high but narrower and shallower, twelve or fifteen feet to the left and running therefrom at right angles a long low wing of only one story, a charming mass, as picturesque as any romanticist could wish, yet at the same time a normal and genuine building.

Especially picturesque irregularities are to be found in the timbering. In the more pretentious houses such as the château of the Carrabarra piece, there is a preconceived pattern to the beams. Yet even here there is no rigid symmetry. Where in the peak of the gable there is a diagonal on the right, it is missing in the corresponding space on the left, while a middle horizontal beam is omitted in the left panel of the lowest timbered story. And in the peasant cottages such irregularities run riot. A peasant's hut in the background of a pastoral piece in a New York commercial collection is at every point unmatched on the two sides, yet there is a certain instinctively balanced compensation. And this asymmetry is even more marked in another cottage in a second piece of the same series in which crossed beams fill one panel, while parallel ones are in the corresponding space on the other side of the door, and the other beams tilt in first one and then the other direction.

The Sixteenth Century style itself, then, in its original and unselfconscious form as it was recorded in the tapestries of the time provided all the irregularity and variation that the most romantic designer could desire. These tapestry houses rebuke the mechanical minded, but at the same time they call to account those scenic-painter contractors who strive for effect without regard to decent building; for these illustrations prove conclusively that those who seek charm can revel in the picturesque without affronting the good taste which demands the genuine and direct.

Phyllis Ackerman.

MEXICAN ARCHITECTURE

"An Architectural Pilgrimage to Old Mexico," by Alfred C. Bossom, Charles Scribner's Sons, New York, 1924, $20, is a valuable addition to the increasing fund of data on the Spanish manner of the Renaissance in its varied phases of expression; the keenness of attention that is now centred upon that type of design, makes this subject one of considerable practical utility. The book makes no pretension to being an historical or archaeological survey of the style, but is compiled, as the title expresses it, as a pilgrimage to objects of beauty and interest. The author's profession, and his practical temperament assert themselves in the arrangement of the information; that is to say, we feel its compilation was guided by the same mental process which would cause an architect to arrange the notes of a sketching tour with the view to its subsequent service in his practice. Classification is convenient for reference under those headings which would naturally occur in the elaboration of work after that manner. The illustrations are arranged and indexed under the headings of Façades and Walls, Courtyards, Gateways, Cornices and Gargoyles, Towers, Porches, Doors, etc.

In a brief introduction, the author touches upon the applicability of Mexican inspiration to modern American requirements, which he explains with clearness and sound logic. The illustrations, sixty in number, are mostly taken by the author's wife, who has proven an adept in the complicated art of architectural photography. We have often had occasion to lament the scarcity of good camera renderings of architectural subjects in these columns; it is becoming a rather desperate requirement, hindering a more general recognition of modern architecture. In her photographs, Mrs. Bossom reveals an intuitive grasp of the most advantageous viewpoint, a feeling for dramatic composition, and, where the subject permits, a faculty for contriving a picturesque result with simple motifs. From the standpoint of architectural information these photographs leave nothing to be desired, as a condition of illumination has been selected in each instance, which gives the maximum amount of information; they convey the relative degrees of relief in ornamentation, and the projection of architectural members.

In studying the illustrations one is impressed by the extent to which the basic characteristics of the Spanish prototype were maintained throughout the radical modification of treatment which evolved in Mexico during the eighteenth century. In the finest examples we find that the essentially Spanish feeling, which produced such perfect coördination between the two extremes in architectural effect—ornamental elaboration and plane unbroken surfaces was in control. As the style grows towards full maturity of expression, we feel we are investigating the evolution of a beautiful European plant which has developed a tropical exuberance under cultivation in another clime. In the Mexican manner we see the Baroque in its most exotic form, built on a scale to withstand a range of vision which is rarely considered in Europe. There is a grandiose scale in their great churches with their polychrome domes, designed to carry the message of the magnificence and power of Rome across vast plains; they were the first human objects discernible to the approaching traveller, holding his vision and imagination as he traversed miles of uninhabited countryside. In Mexico, architecture became a medium for religious propaganda of the first importance. Its capacity for impressive effect was expressly contrived and developed for the physical growth and spiritual control of a materialistic and superstitious race. We are indebted to Geoffrey Scott for the complete reversal which the critical attitude has undergone toward the Baroque manner; its true significance was never appreciated before he so admirably expounded its artistic value in the "Architecture of Humanism," a work which has probably surpassed all others in the influence which it has exerted upon the esthetic appraisal of architecture. With the endorsement of such an eminent authority we now feel justified in allowing our admiration of the exuberant Baroque full rein, without the disquieting sensation that we are indulging a debased and unorthodox taste. In that land of brilliant sunshine, the enrichment of translucent shadow, deliberately calculated, was capitalized to the maximum, but we never find that the intricacy of the embossed pattern, with which they ornamented so many of their structural features, detracted from the architectonic significance of the item so treated, nor was it productive of the smallest degree of confusion. We are astounded by the coarseness of the plastic technique with which so grandiose a scenic quality was contrived, and by the delicacy of the structure as a whole; that which was lacking in sculptural refinement was amply compensated for by the masterly manipulation of light and shade.

The author has not restricted his records to the most ambitious examples, but has given a number of illustrations which present the style in its more intimate interpretations as applied to the less pretentious buildings. These are particularly interesting as they reveal the ability of the majority of designers of the period, and the extent of stylistic influence. A number of these are of unprecedented character in architectural design, possessing that form of interest which is always present when a work results from an artistic aspiration more active than its author's technical knowledge, and when imagination is unrestrained by acquaintance with artistic tradition. A number of sketches by Alfred Bossom are of great value to the architectural student as they are essentially informative.

Leon V. Solon.

"SELECTED MONUMENTS OF FRENCH GOTHIC ARCHITECTURE"

By John V. Van Pelt

The avowed object of the publishers of this "selection of a selection" is to make available at as low a cost as is consistent with proper presentation, material which is now prohibitive in price and unobtainable. This is excellent, for it is based upon the perfectly sound assumption that those who are most opulent in taste and talent are more often than not unable to buy the necessary food to feed these faculties. The artist has fallen upon evil days; the past alone is rich in beauty. The doors to those storehouses which contain this threshed grain of the ages ought to be opened and this is one way of opening them—the publication of such books at such a price—but it makes all the difference whether the recipient of the largesse uses it as *seed* or as *food*, that is, whether he be inspired by the great work of the great ages to create freshly from his own spiritual center, in terms of his own time, using its methods and materials; or whether he play the sedulous ape to ancient greatness, producing at best only faded and futile copies, and at worst, mere caricatures.

The present volume* presents examples of French Gothic from the early dawn to the late twilight of what was in many respects the most marvellous day that ever dawned upon the planet earth—not the most serene, nor the most magnificent, nor the most awe-inspiring, but surely the most surcharged with *wonder*. French Gothic is supreme in this, the glory of its sun-shot, sanguine and cerulean windows alone would prove it so, for they are unique and unsurpassed, but there is besides the straining upward of clustered columns which at a given point burst, rocket-like, into ribs which shatter themselves against, and yet support, a granite sky; there is the visible arithmetic of stone window-tracery which here freezes into crystals and there fuses into flame; there is all history and theology spelled out for the eye by the patient chisel of the sculptor, with naïve additions and variations of his own.

Surely, if anything was ever divinely inspired it is this Gothic architecture of France, which seems to have been conceived by natural, law-defying mystics in some ecstatic state of trance, and carried to completion by the most rational of geometers and the most practical of artizans in wood and stone.

In order fully to appreciate and enjoy this book of pictures it should be looked at in connection with the reading of Henry Adam's matchless *Mount Saint-Michel and Chartres*, for that contains the *clue*, reveals the *motive*, and the pictures, in turn help in the understanding of Mr. Adam's text, for they supplement, in some measure, the great deficiency of the existing edition of this masterpiece, which is the lack of a sufficient number of illustrations. The lesson of both books is the same: conveyed in the one case by words, suggested in the other by pictures: this architecture sprang from a spiritually illumined consciousness, stirred to the praise of God as manifested in Christ and the Virgin through the creation of Beauty, not in any niggardly and frugal way, but generously, opulently—by the breaking of the alabaster box of precious ointment, actuated by love alone. And until that spirit of praise and worship again animates the hearts of

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*Selected monuments of French Gothic Architecture. One hundred plates from *Archives de la Commission des Monuments Historiques*. With text by John V. Van Pelt, F.A.I.A., A.D.G.F. The Library of Architectural Documents. Vol. III. Published by the Pencil Points Press, Inc., New York, 1924. Price $6.00.

men, we shall strive in vain for such felicity of achievement as shines forth from the pages of these documents.

Claude Bragdon.

CO-ORDINATION BETWEEN MURAL PAINTING AND ARCHITECTURAL SETTING

In recent editorials we discussed certain examples of modern American sculpture from the standpoint of their capacity to fulfil a contributory function in architectural effect. The works under discussion were appraised primarily as decorative architectural items; they were considered as component parts of the architectural scheme, on a par with the carved capital or frieze; that is to say, they were expected to contribute effect-value of a definite denomination to the entity of architectonic effect. The lack of homogeneity which was discovered in many instances in the association of sculptural and architectural effect was attributed to the omission of a vital point of view on the sculptor's horizon. A clear conception of the precise ratio of architectural effectiveness which his composition should possess had not controlled creative effort. In the work of the rising generation of American mural painters we are sensible of the same oversight.

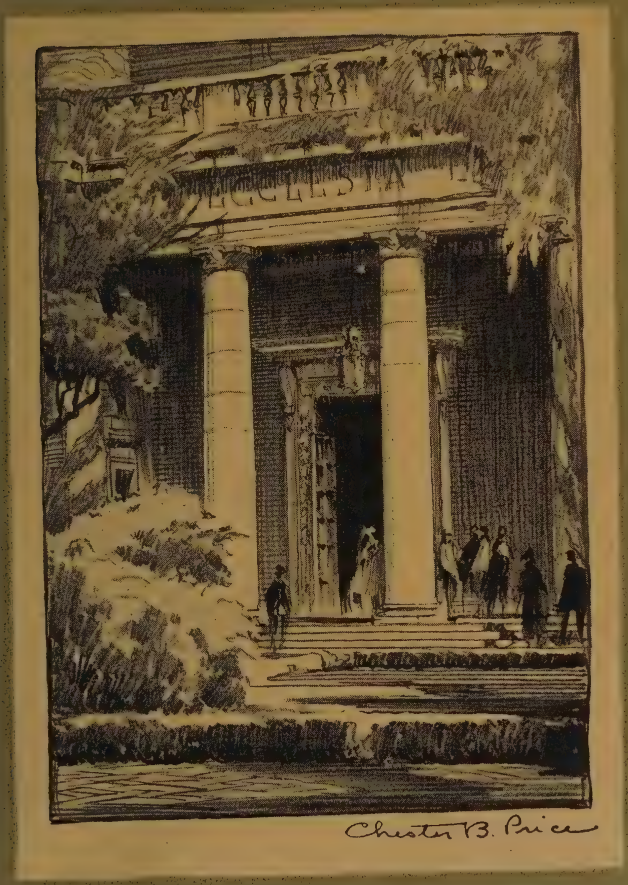
The ideals and mannerisms of the preceding generation of mural painters have been energetically discarded by the younger men, and the ordeal of creating new aesthetic objectives enthusiastically undertaken. In the absorbing pursuit of pioneering, it is not to be wondered if certain vital considerations are overlooked—particularly those which casual consideration might judge as appertaining more to the concern of the architect than to that of the painter. It is our desire to dispel any vagueness as to the responsibility of the painter who decorates the walls of a building; we will therefore endeavor to analyze those controlling factors which assure satisfactory results. A specific phase of critical faculty is mainly involved, which, in its complex activities is operative throughout the process of all artistic production.

A thorough appreciation of the precise meaning of *schematic significance* is more vital to the efficiency of the mural painter today than it was to his predecessors of the historic eras, as it is now necessary to make *deliberate* calculation as to the co-relation of decorative and architectural effects. Under the ancient condition which fostered the unification of aesthetic objectives and interrelation of effort in composite effect, this was intuitively sensed. Through the intimate association of builders, carvers, painters and craftsmen in the abbey workshops during the Middle Ages, the quality of fitness was the fundamental criterion in creative effort. Questions which concerned scale, decorative elaboration, tonal value, or the precise location of focal points of artistic interest, were all considered in their relation to the three dimensions of structurally enclosed space. All forms of painted decoration were conceived, and their development visualized, on the spot. The decorator of the Gothic cathedral was not expected to develop his theme upon the bare datum of linear dimensions such as are indicated upon the modern blue-print, and from which the mural-painter is expected to form an accurate concept of spatial dimensions. In the Middle Ages immature judgment was bound to reveal itself at the initial stages of execution, as an inadequate solution of the problem in hand exhibited its deficiencies from the moment that the project was tentatively traced upon the destined location. In addition to the disadvantage of a nebulous impression of spatial dimensions in an incomplete structure, our painters are often unacquainted with conditions of lighting at the time at which they are called upon to prepare cartoons; these necessarily affect the relative prominence of architectural features, and should control the tonal key of chromatic effect.

During the Renaissance periods, mural painting was assured architectonic adequacy through other circumstances than those which benefited the Gothic painter. At no other time in the history of the arts were architecture and mural painting so truly "sister arts." If we draw conclusions from the records of the artistic historians of that age, it was the prevailing custom to study both arts simultaneously. A practical knowledge of architecture was considered essential to the painter, who acquired its technique with such thoroughness that in a host of instances it is difficult to determine whether the individual could be considered primarily as a painter, without a measure of disparagement to his achievement in the art of architecture. With so intimate an acquaintance with architectonic ideals, a perfect attunement between the mural decoration and its structural setting was an unavoidable consequence; pictorial values were calculated absolutely from an architectural basis.

The modern mural painter is confronted with a much more intricate problem than were his predecessors of the Gothic or Renaissance eras, equipped with their heritage of craft-tradition. Of recent years we have seen American architecture using historic precedent as the fruitful soil, from which with free impulse it has blossomed and borne rich fruit. The elements of historic expression have been reduced to the status of media for a racial expression which has materialized through untrammelled feeling born of unprecedented premises. In the subtle revision of scale which decorative elements have undergone, we see the mastery of purpose over medium. Mere archaeological accuracy shares the prejudice which attends the wearing of borrowed apparel, and literal transcriptions of structural or ornamental detail do not satisfy the fastidiousness of this newly-found ratio in scale. In view of the intimate relation which must necessarily exist between pictorial architectural quantities in their combined effect, it is vital that the painter keep abreast with this colossal architectural movement;—but what evidence is there in any recent mural work that it is even under casual observation? It is far from our intention to depreciate the usual form of study which is concentrated upon the works of the masters of mural painting, who made so great a contribution to the structural masterpieces of the past. Such study is in the main cultural, enlightening in technique, and of great inspirational value; but if those masterpieces be examined from the purely pictorial angle, they are impotent to teach their basic function, which is essentially architectonic. No serious mural-painter today cherishes the Mid-Victorian fallacy that the interior which he decorates is merely a shrine for his work; or, that in the detachment of his paintings from their architectural surroundings he assumes a form of aesthetic precedence. The mural paintings of Puvis de Chavannes possess a rare and dominant quality in their invariable capacity for architectural incorporation. His tonal key, and the sense of spatiality with which he invests so many of his compositions, adapt themselves admirably to the general chromatic austerity of the late nineteenth century formula for interior effect: his paintings have a definite schematic relation with the architectural impression. Brangwyn, on the other hand, is at a decided disadvantage under similar circumstances when considered in the architectural relation; the tonality and luxuriance of his coloring and the general weight of mass in grouping and the silhouette, produce a schematic value which calls for a totally different quality of architectural effect to that which aligns itself so well with the work of de Chavannes. The basic requirement for a better adjustment between this form of decorative effect and interior architectural effect lies in the painter's capacity to determine in terms of his own art, that complement to architectural effect which primarily achieves aesthetic entity. Such calculation should operate intuitively as a habit of thought which underlies imagination without impeding its freedom, which is fostered through the painter's complete familiarity with architectonic quality. For some time we have been encouraged to look to the American Academy in Rome as the training ground of those who are destined to brilliant achievement: yet, with each succeeding exhibit sent, we feel more and more that the potential capacity of its mural painting is diminished by a palpable lack of architectural comprehension and sympathy. Were it possible to make some revision in the curriculum to meet this serious deficiency, it would undoubtedly be productive of invaluable results. For those who follow this important phase of artistic expression, the intensive and sympathetic study of architecture when directed to the analysis of qualities of effect, is barely secondary to that of form, composition, and color technique; for upon the evidence of such comprehension the fitness of effort is appraised in the ultimate judgment.

The ARCHITECTVRAL RECORD



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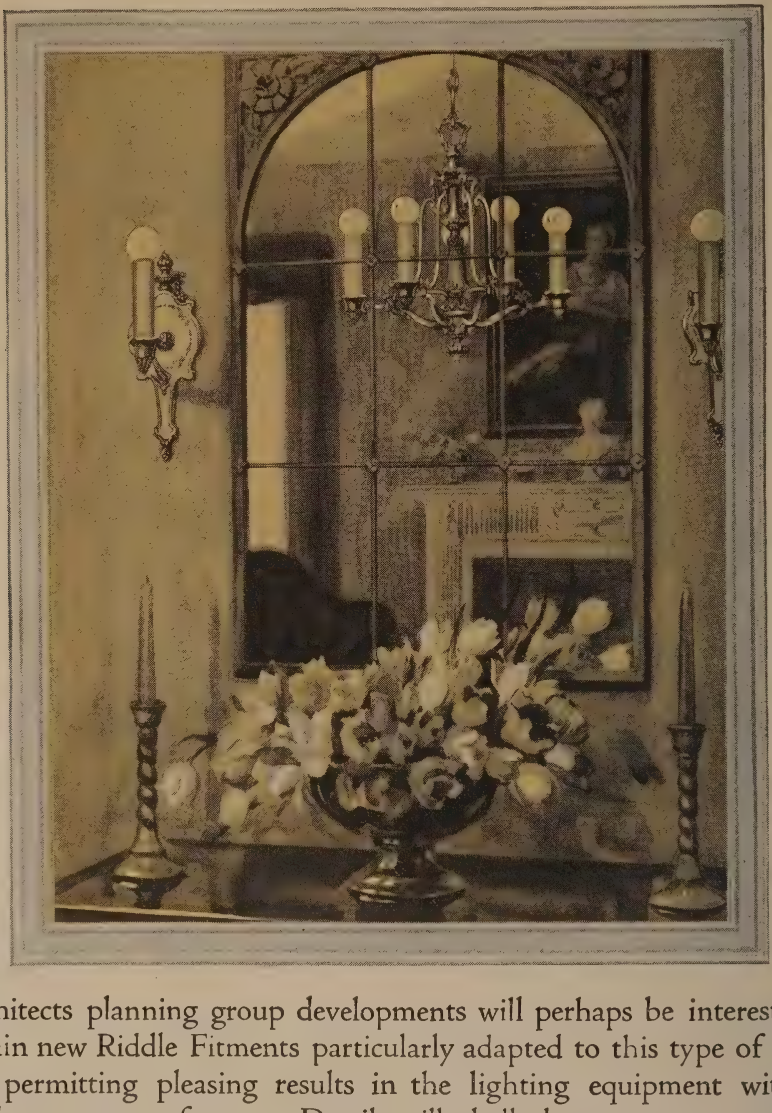

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VOLUME 56 SEPTEMBER, 1924 NUMBER 3

The RACQUET CLUB of CHICAGO

REBORI, WENTWORTH, DEWEY & McCORMICK, Inc., ARCHITECTS

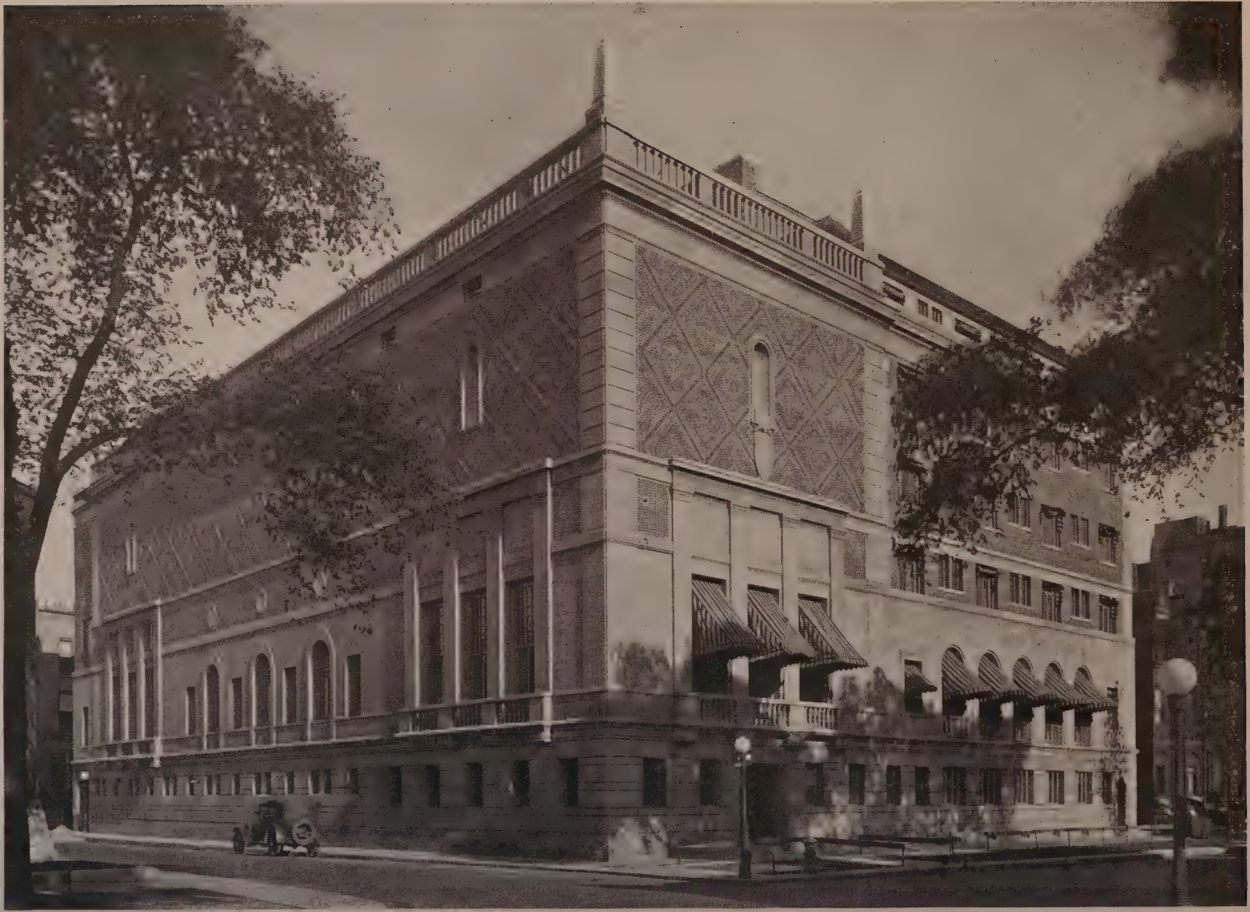
By

Michael Andrews

The Racquet Club of Chicago will repay professional study. It is an admirably arranged building of a modern type that is likely to come into general use, namely, the city club with facilities for both social and athletic recreation; it was constructed at a remarkably low cost through the use of stock materials, coupled with economies of plan; and the design is a notable exemplification of the formula; expression of plan requirements in frank terms of structural method and material. The design, indeed, is particularly interesting because its affiliation with the Progressive movement does not connote repudiation of the Classic tradition.

Under present economic conditions the spacious town house of the well-to-do, with its hierarchy of trained servants, is rapidly disappearing. With this fact in mind, the Racquet Club of Chicago was designed to provide general facilities for social and athletic enjoyment. The building was conceived on the scale of a large home, each member-master of the house upon occasion providing entertainment for the entire membership of 500.

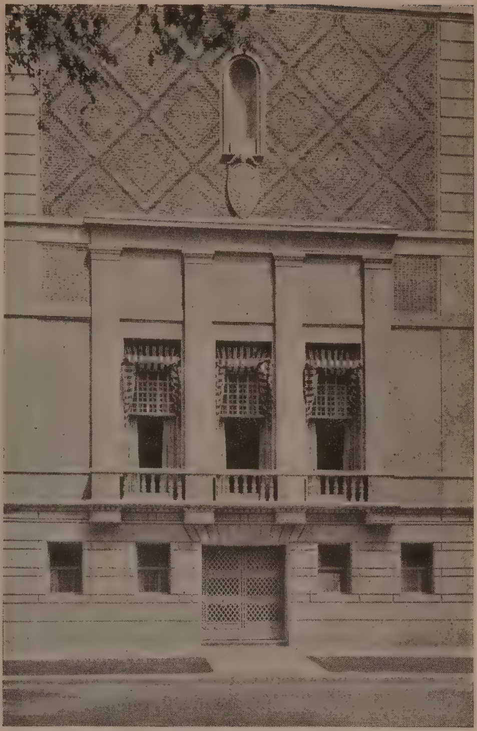
Therefore, it is through the plans that the building must be studied in order to appreciate the design of its various parts and the general significance of the building. Reduced to simplest terms, the problem contained two distinct features; one, social, and the other, athletic, distributed under the same roof, accessible to each other. The component parts of the athletic group radiate from the locker lounge, while the social group with its dining room, living room, card rooms, etc., is reached from the main hall on the first or club room floor serving the locker lounge, and in turn fed by a broad stone stairway directly from the entrance lobby below. The main entrance to the building on Dearborn Street—the site is at the southeast corner of Schiller and Dearborn Streets—opens onto a lobby, off which are the office, a small guest room, coat rooms, manager's private office, elevator and the main stairway. The elevator, reached directly from the entrance lobby, is to the right of the entrance and serves a group of twenty-eight bedrooms, arranged in four floors in a separate



Façade
CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS
Rebori, Wentworth, Dewey & McCormick, Inc., Architects

wing, affording privacy to members and their guests living at the club. On the entrance axis is the main stairway with an easy rise to the hall of the first or main floor above. By reference to the first floor plan, a general idea is obtained of the accessibility of the various rooms on this principal floor. Each room is a distinct feature of the plan, isolated as it were one from the other, yet forming a functioning part of the ensemble, easily reached and frankly expressed both in plan and elevation. The main club room occupies the corner with the library adjoining; at the east end of the main hall is the dining room, with grille or kitchen service. A directors' room and a private dining room complete this side of the plan.

South of the club room is the card room with two private card rooms off it. Thus, the social group is accessibly and conveniently arranged without interfering with the athletic features of the club which open from the locker lounge, also entered from the main hall and placed on the axis of the main stairway. The locker lounge, with its adjoining dressing booths and showers, is arranged with storage lockers in charge of an attendant within direct call. All the athletic features are reached by stairs directly from this central room, either one flight up or one down. Thereby the locker lounge becomes the heart of the athletic functions of the club, its arteries reaching out to the various parts of the building without interfering with the social activities. A large room east of the locker lounge is devoted to the gymnasium. On the second floor are the tennis court, two racquet courts and two single squash courts on the balcony level, all lighted by skylights and the most modern system of lighting for evening play. A players' room, markers' room, professionals' room and a bat stringing room occupy the space under the single courts. In addition to those on the second floor there are two double squash courts and a single one in the basement. Here, also, are four bowling alleys and the billiard room.



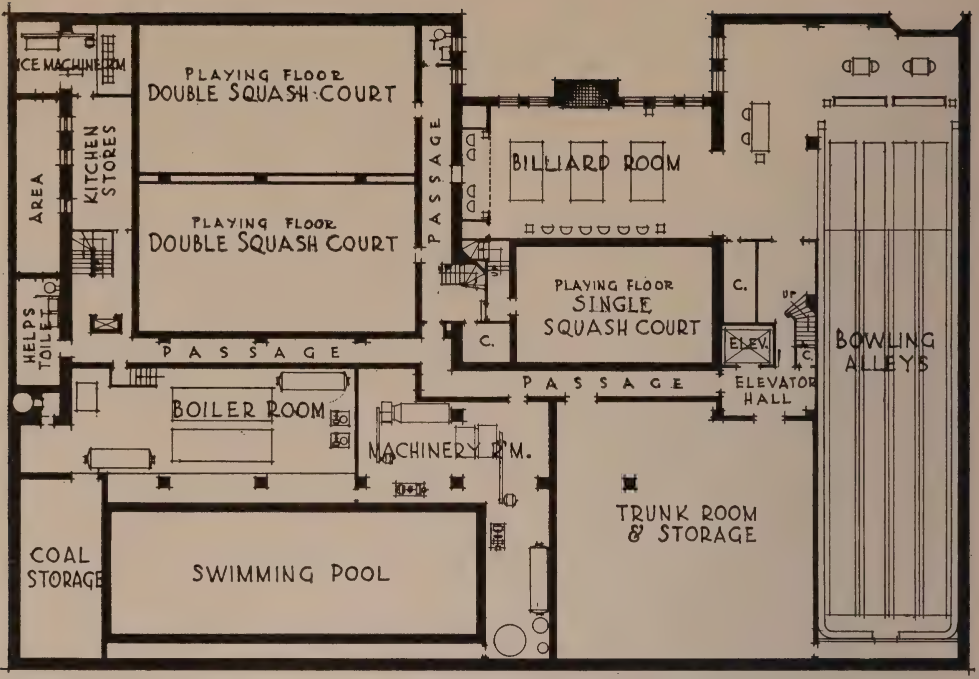
Entrance Detail
CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS

At the entrance level, and reached from the locker lounge, but not accessible from the lobby, is the swimming pool with outside light. Connected with it is the bath department with its vapor room, hot room, therapeutic baths, scrub rooms and quiet room.

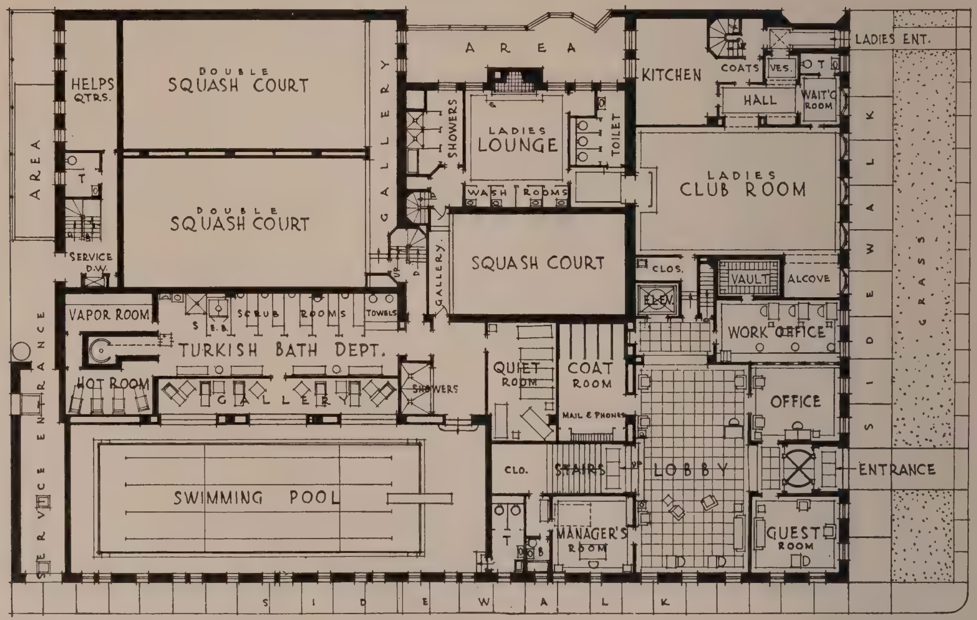
Separated from the rest of the club, with its own private entrance, is the ladies' department, a unit in itself.

All these, then, with complete modern mechanical equipment, are the various plan requirements which compose the Racquet Club. It is a strictly fireproof building, built in permanent materials, with exterior masonry bearing walls, interior structural steel and concrete columns and floors, built at a cost slightly under 60c. a cubic foot.

Let us go back and see how the various important rooms are treated architecturally, for here is a building where symphony of plan is emphasized by careful selection and use of inexpensive but appropriate



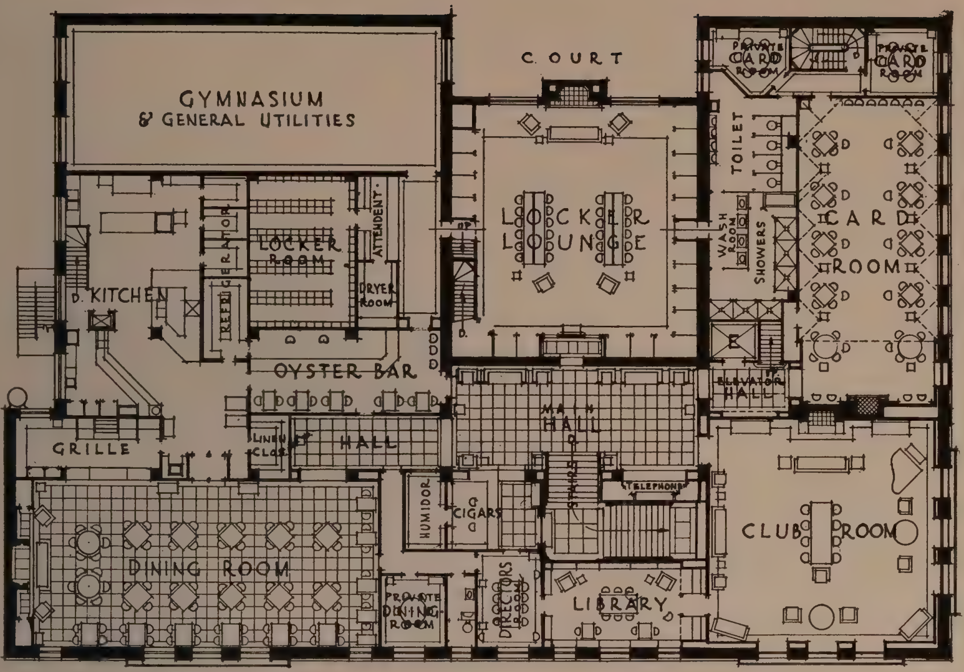
Basement Floor Plan



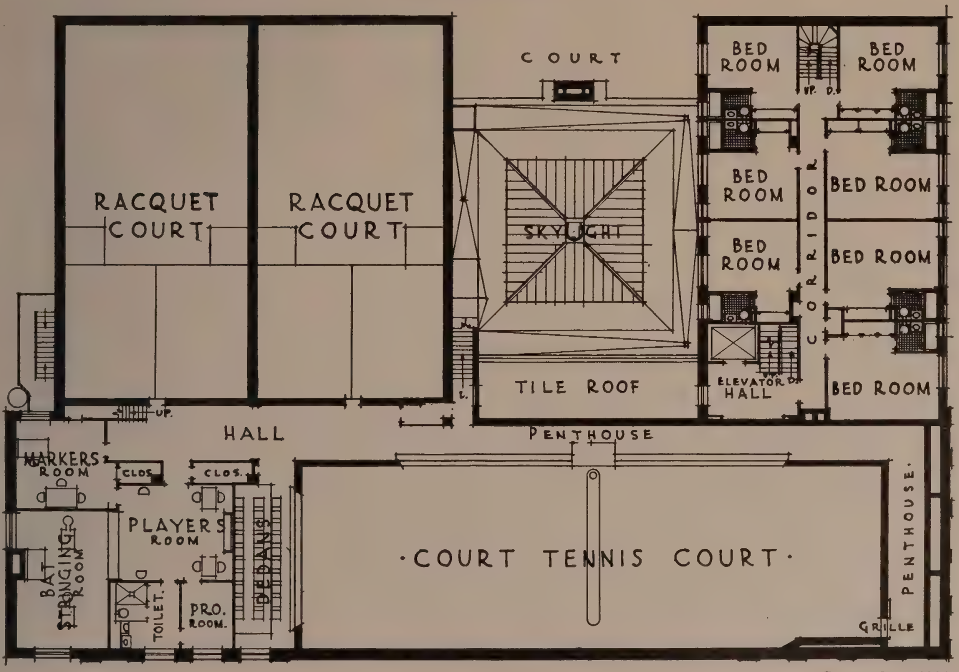
Ground Floor Plan

CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS

Rebori, Wentworth, Dewey & McCormick, Inc., Architects



First Floor Plan



Second Floor Plan

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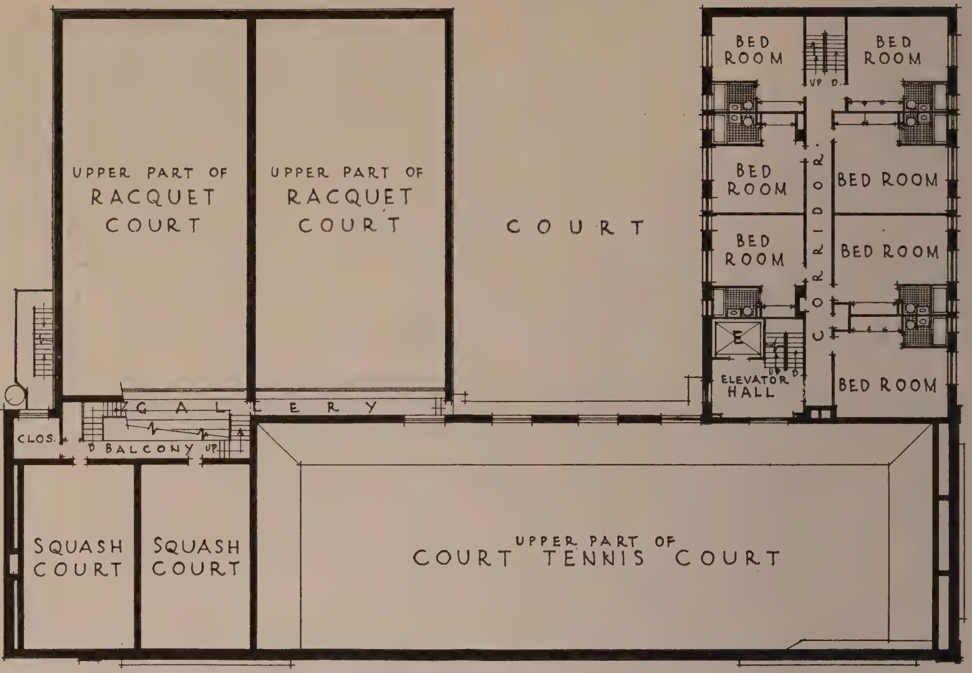
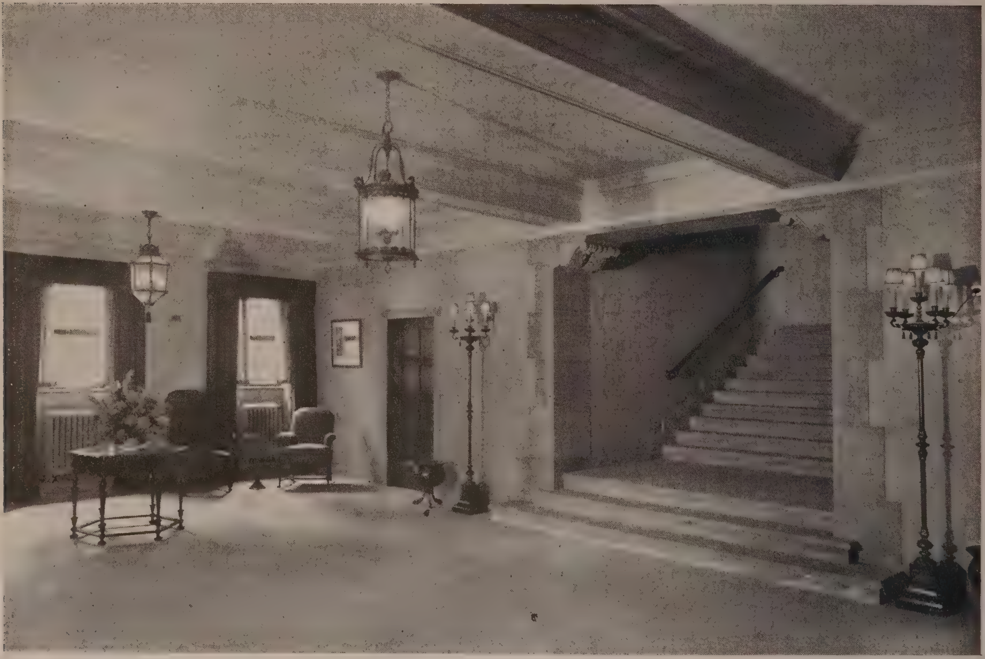
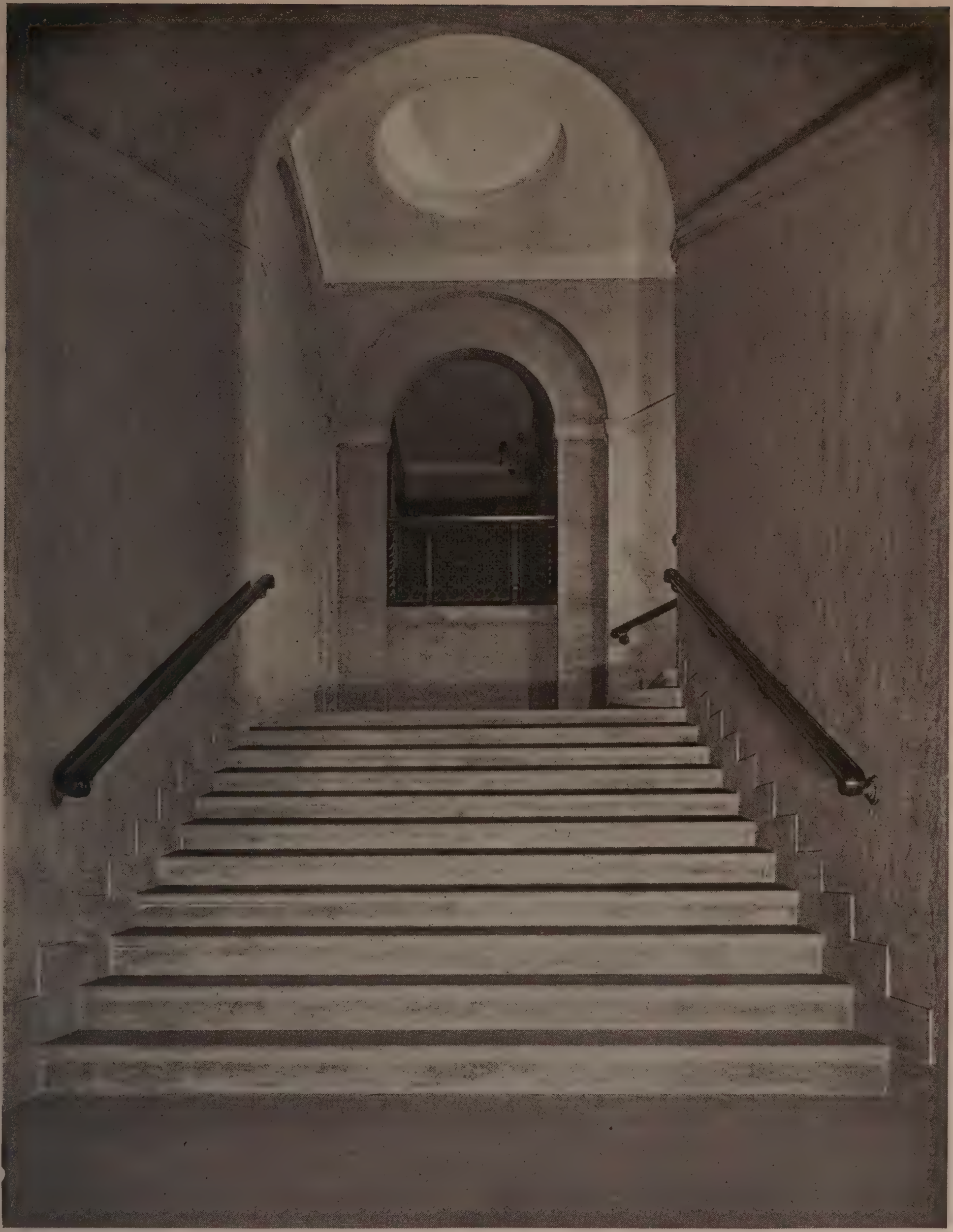


Third Floor Plan



The Architectural Record September, 1924

Entrance Lobby
CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS
Rebori, Wentworth, Dewey & McCormick, Inc., Architects



Main Stairway

CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS

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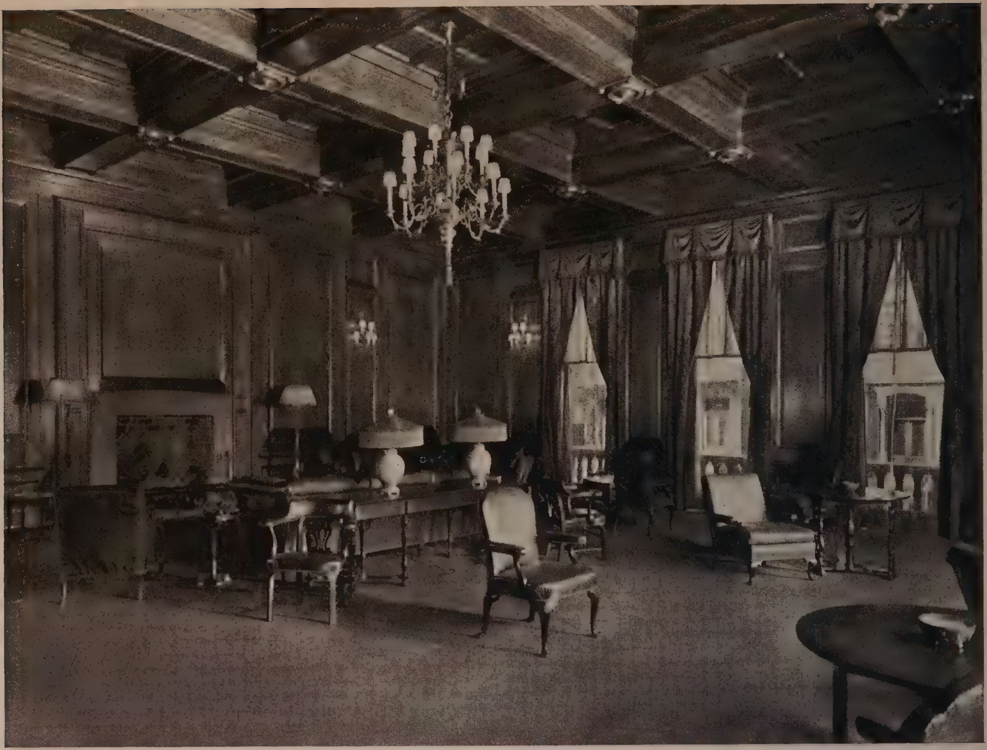


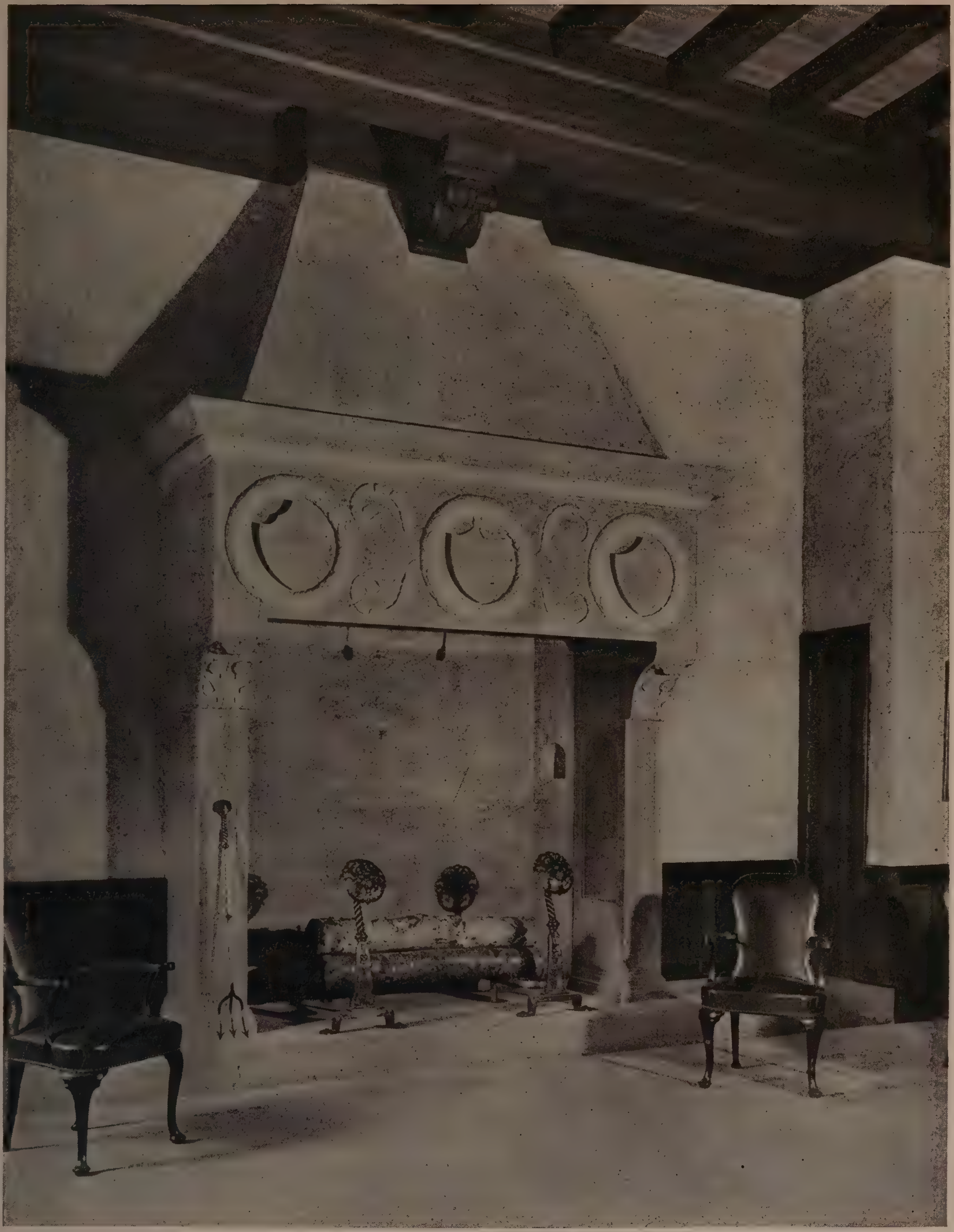
Corner of Main Club Room
CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS
Rebori, Wentworth, Dewey & McCormick, Inc., Architects

building material. From the entrance lobby up the main stairway to the first floor hall, through the secondary hall, into the dining room, the floors are surfaced with 24″ square slabs of Mankato stone, honed finish, quarried in Minnesota. The trim around openings in rooms where stone floors occur, the dining room fireplace, the trim of all other fireplaces, and the treads and risers of the main stairs are of the same stone but thicker. Palm finished plaster walls set off this stone work besides affording a dignified, impressive background for pictures.

In the club room, the entire walls and ceilings are paneled, selected grain American walnut. The ceiling is made up of flat squares or coffer panels, diagonally cut matched grain, set in heavy wood beam casings which cover the structural steel floor member. Large panels subdivide the wall spaces, making the smaller divisions settings for light fixtures, and the larger panels backgrounds for full length portraits.

Mouldings are purposely kept flat in order to accentuate the rich quality of the wood, a serene richness that is further accentuated by contrast with the broad, high window openings. Even the fireplace is kept flat to the wall, subordinated to the woodwork. A natural walnut finish characteristic of the wood gives tone to the entire club room, revealing an enduring quality of design.

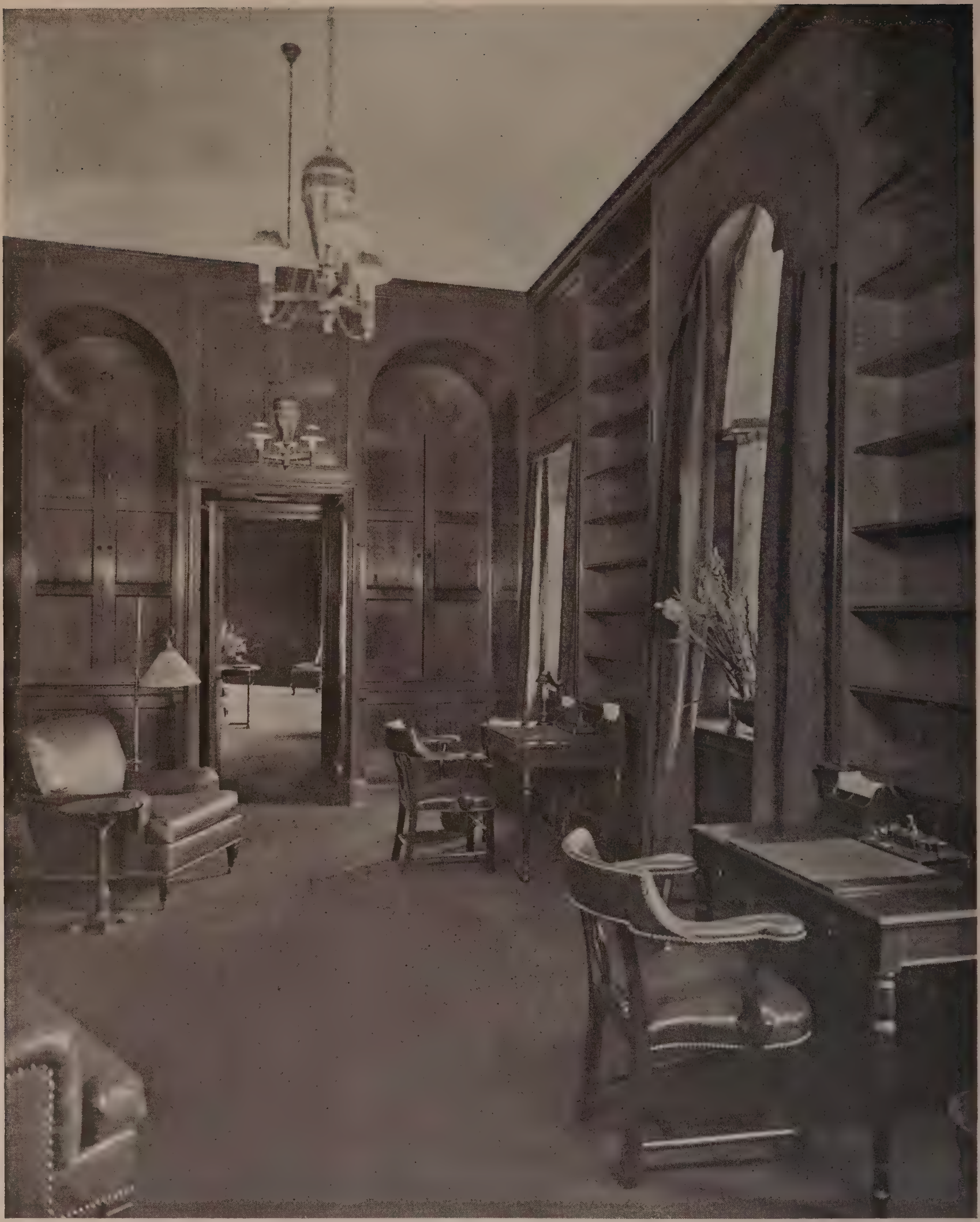
The dining room woodwork is rough surfaced oak, treated in keeping with the informal character of the room with its stone floor and palm finish walls. Carved wood corbels support the cross beam casings and the panel spaces between beams are made of 6-inch matched V^{d} boards used as form work for the thin concrete floor slab above resting on steel beams spaced uniformly. A Mankato stone fire-



Detail of Stone Mantel in Dining Room

CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS

Rebori, Wentworth, Dewey & McCormick, Inc., Architects



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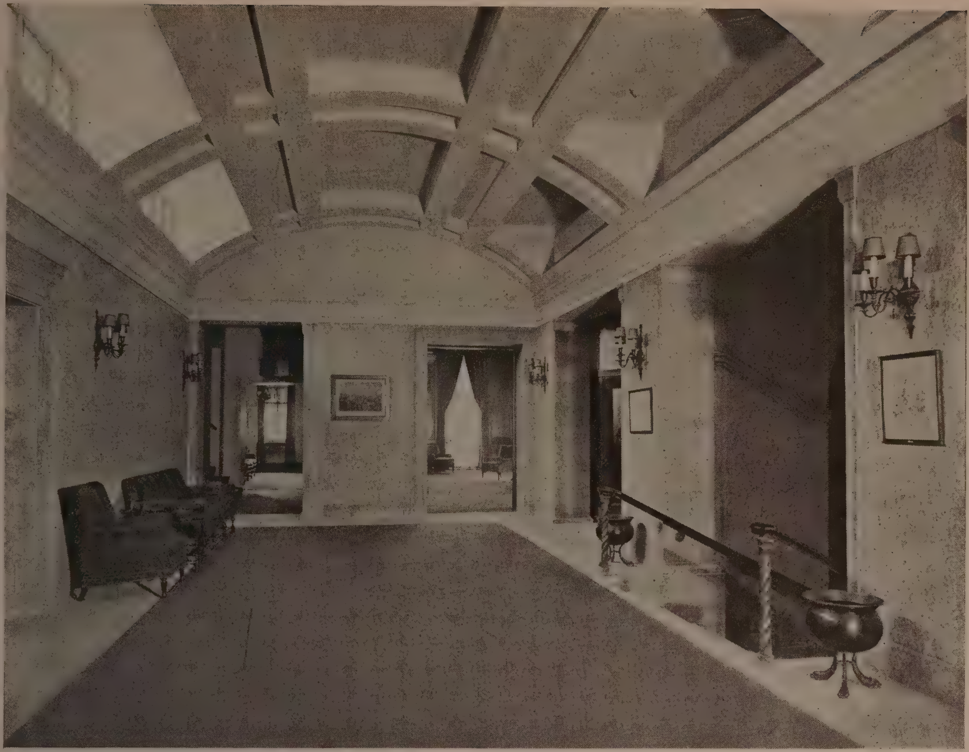
Small Library off Main Club Room

CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS

Rebori, Wentworth, Dewey & McCormick, Inc., Architects



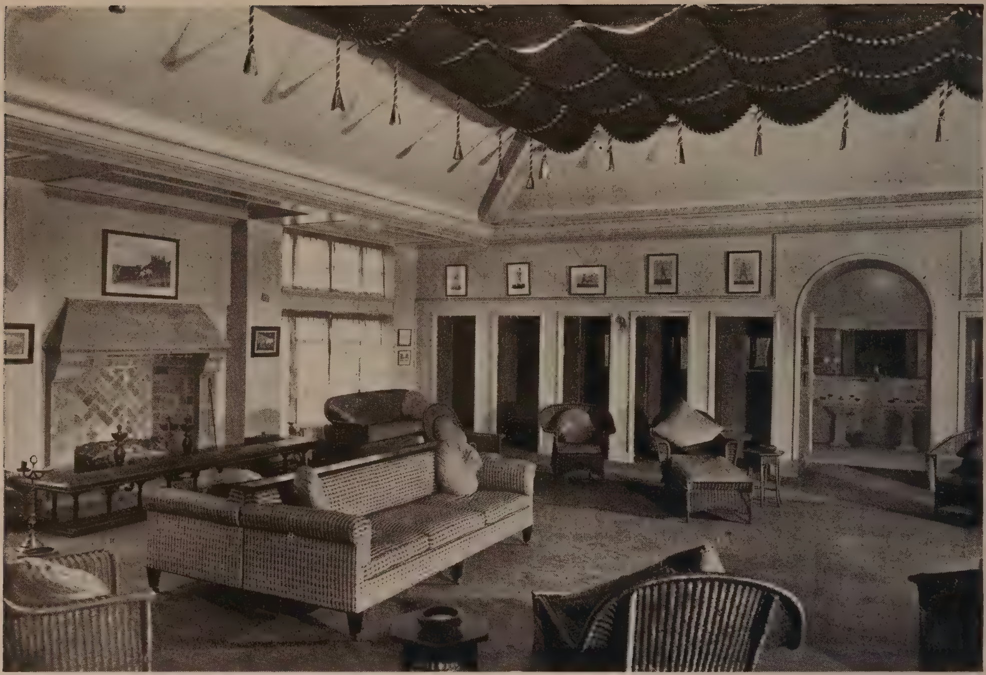
Main Hall
CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS
Rebori, Wentworth, Dewey & McCormick, Inc., Architects

place over seven feet in height, reminiscent of old Italy, is the feature from which the room takes its scale.

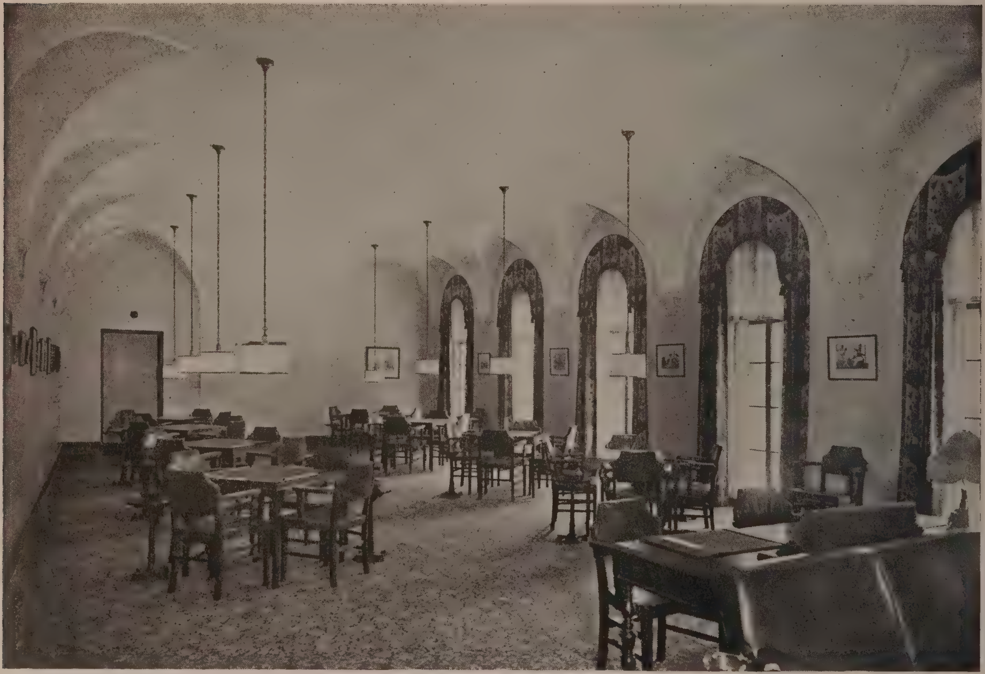
Nowhere in the building does precedent dictate the architectural treatment. Each room takes individual form as part of the general scheme, giving direction to the diversified action in straightforward terms and achieving contrast and interest by change of materials and ceiling height. In the library oak bookshelves, with cabinets for the more precious acquisitions, fill the wall surfaces up to the elliptical vaulted ceiling. The ceiling of the main hall has a plain ribbed arch sweep with clerestory windows reaching above the spring line over the locker lounge roof. The oyster bar ceiling is a full barrel vault springing from paneled oak wall surfaces, while the small hall leading to the dining room is octagonal headed, and the card room has its vaulted ceiling with circular penetrations. From the low entrance lobby, with its flat ceiling, up the main stairway, the movement begins with the vaulted ceiling following the slope of the stairs and from there on to the various rooms.

The locker lounge is entirely utilitarian in conception, being the natural result of a design where light, air and cleanliness were of prime importance to the proper function of the room. This note is consistently followed throughout the building where like conditions prevail. In all cases plain walls provide a good background for a fine collection of sport prints.

The exterior of the building is a combination of limestone and red brick laid in walls of solid masonry construction. Exacting plan requirements dictate the general composition. However, by careful readjustment in mass and detail, the bedroom wing is secondary to the more



Locker Lounge



Card Room

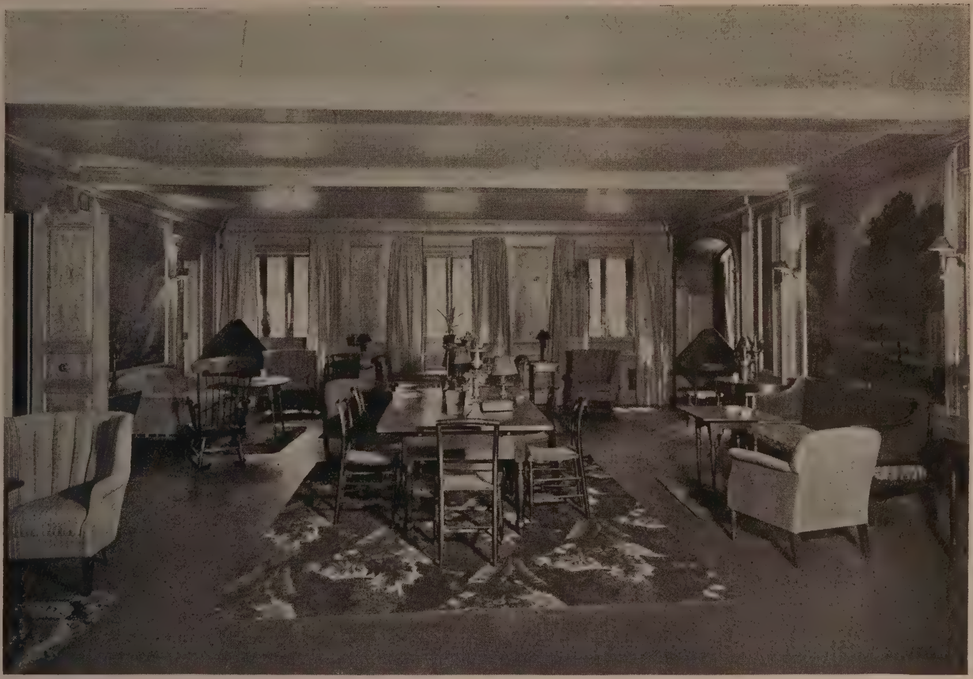
CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS

Rebori, Wentworth, Dewey & McCormick, Inc., Architects

monumental corner motive. Limestone carries the design across the lower stories up the corners, framing the brick field pattern with a suppressed cornice crowned with a simple balustrade emphasized by corner pylons, thereby lifting the solid entrance mass into the picture and subordinating the lesser wing.

Solid masonry walls, with deep reveals at the windows, give the structure solidity and grandeur which is further enhanced by flat moulded surface and colorful material combination. Stone surfaces are all straight machine cut, free of costly returns and the brick pattern screening the large interior tennis court, is laid up in actual brick size to a conventional design accentuated and made interesting by a ¼ projection for part of the work. A white mortar joint unites brickwork and stone in softened contrast.

The building as a whole shows vigorous good taste in design. It is well studied along clearly defined lines, bearing the impress of permanence without extravagance. By its directness of purpose it points the way for good, creative architecture, along the middle path of least resistance between the opposing forces of the Progressives and Classicists. In architecture, creation has no lasting value unless derived from a need expressed in terms of substantial building material. Add to this strictly utilitarian doctrine, grace and proportion, combined with unity of conception and the result is bound to reach the realm of art through buildings that will endure.



Ladies' Sitting Room
CHICAGO RACQUET CLUB, CHICAGO, ILLINOIS
Rebori, Wentworth, Dewey & McCormick, Inc., Architects

LOW RENTAL HOUSING
SUBURBAN TYPE

By
Frank Chouteau Brown

Part II

May we again enumerate the conceivable directions from which may come reductions in the costs of building and housing.

One would be the reduction of the labor cost by the admission of cheap foreign labor. The new immigration law has settled this point. We have already (in the article published in the May issue) examined the situation here, and may again have a few words to say in relation to some changes caused by the new Immigration Bill.

Another method would be by making certain changes in existing Housing, Tenement and Building laws, that now unnecessarily increase the costs of building, and actually prevent the construction of new and modern tenement houses. We believe that there is actually some prospect of substantial relief along this line. Greater knowledge of the situation is being spread; the agencies that helped to impose the restrictions are awakening to the fact that the mere enactment of preventive legislation never has corrected the situation and they are combining with others interested to so modify these laws as to obtain relief. In partial proof we offer the fact that we were last month able to announce that the Newark laws had recently been so modified as to make it possible to commence actual construction of the Model Workingmen's tenement, illustrated in that same issue.

The building "subsidy" is still *another* way. As it has been experimented with in New York, in the form of a "Tax exemption" we have already found it to be impracticable—at least, under the present restrictions. Better means of subsidizing have already been tried elsewhere, as we will later show before finally abandoning this phase of possible relief.

The removal of factories, from congested urban to convenient rural sites, is another means of relief that possesses potentialities not entirely unrealized by important business interests that have become involved in North America. Yet we have seen how, in Europe, much has been accomplished by this means, and if the situation in this country were as well understood and as intelligently attacked, we should undoubtedly have much more success than we have yet encountered along these lines.

Then there is the gradual removal of certain types of labor from congested portions of the city, to the less expensive and healthier suburbs, made possible by the ownership of a motor. This is a new factor in the situation, and one that will inevitably grow more important with each passing year.

But there still remains something to be said about the housing facilities of the artificially upbuilt industrial community, as undertaken in the past, as well as to indicate some directions in which these very same factors still can be bettered and expanded.

Most of the housing undertaken in this country by manufacturers, for the use of their help, has, thus far, been of two types. All the older structures, like those at Manchester, N. H., and other northern mill towns, have been small individual or double houses, the latter being either the two-family plan with a center party wall, and a house on each side (in rare instances extended to a short connected block of three or four houses) generally known as the "semi-detached" plan, or the type where there is a family provided for on each floor. This latter type sometimes extends upwards for another story, either adding the rooms there contained to the upper floor apartment, or dividing them between the lower and upper floor tenements. This arrangement is seldom found in the lower rental housing type, however, as it adds to the cost of construction.

In later housing, built for employees by corporations, this "two-story" tenement is the favorite because of the lower cost of construction, and the fact that it provides both tenants with exposure on four sides. Occasionally it is extended to three stories. In the cheaper grades of tenements, this type is usually built of wood and as close together as possible, often being only eight to ten feet apart, a distance that is occasionally still further lessened by projecting bays. In this case the dangers from fire are greatly increased, and the loss of privacy for the occupants is inevitable, while the actual saving is so small as to be negligible in any small size mill community where land values are low. Workmen's housing in this country under these conditions has thus far been planned by corporations for retention under their own ownership and rental to their workmen, whereas much of the building undertaken in cities and their suburbs has been by the speculative builder, who is counting upon disposing of his venture by sale at the earliest favorable opportunity; and consequently feels it incumbent upon him to carry on his improvements in complete units of comparatively small size, so that he can the more easily dispose of them.

It has been proven again and again, that it is a better financial investment for any large property held under one ownership to be laid out as a whole, even to the extent of carrying a large number of dwelling units, over a considerable area, from a central heating plant. Such an operation requires far less initial expense in the building of roads and installation of public utilities, and makes more available the land for the buildings and the uses of their tenants, while for its obviously better appearance and the better class of tenants it attracts it has further incalculable advantages.

In Europe the employment of the "two-story tenement" type of detached dwelling is not usual. Occasionally in a "row house" development, some few houses are divided into two-family "flats," but this is the exception, though we find this type in certain parts of our American cities, Philadelphia and Baltimore, for instance. It makes about the most permanent and least expensive dwelling, although there are certain classes of American labor that object to living in "row houses," and seem much to prefer the large "tenement" building. But in this country the "row" type of plan is not usually acceptable, except in the rather crowded portions of our larger cities; it is certainly not customary or in demand in new suburbs, nor in remote manufacturing communities where the development is new, and land values low. While in England, particularly, the most attractive results have been obtained in the newer housing communities where the small houses have been clustered into rows, thus substituting a long and more interesting architectural composition, with the greater privacy of the solid party wall, for the closely adjacent and parallel walls, each with windows looking into the adjoining houses, and the smaller separate house units scattered close together over a large territory.

The grouping of these smaller units makes the aspect of the entire development more restful, and actually less

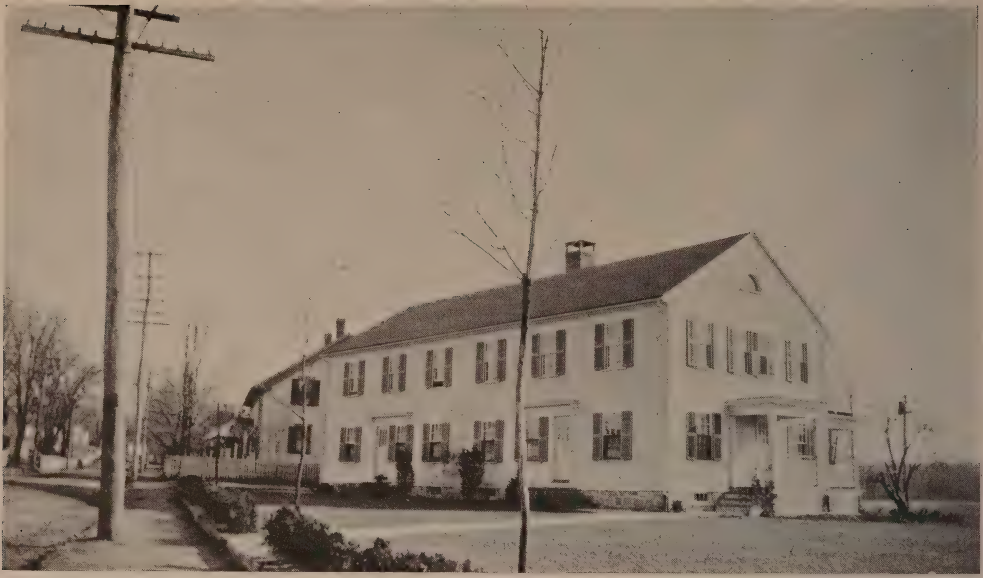


Figure 27
Four-Family, Four-Room Village Type
APARTMENT HOUSE FOR STILLWATER WORSTED MILLS, HARRISVILLE, R. I.
John Hutchins Cady, Architect

crowded, as it then becomes possible to place the houses farther back from the streets; to insure the privacy of the yards from the noises and dangers of the streets, and to obtain larger spaces for planting.

Yet in place of these obviously better and more economical small dwellings, each protected from its neighbors by an eight-inch brick party wall, we continue to build separate wooden boxes, a family to a floor, and crowded as closely together as we can slice our lots, in long rows and interminably ugly and monotonous blocks. This is exactly what has recently been done at Thompsonville, Conn., for the employees of the Bigelow & Hartford Carpet Co. This, too, despite the fact that the houses are unusually large and expensive in plan.

It is certainly not necessary to give space here to illustrating the type of plan that has just been discussed. There is nothing but its obvious cheapness to commend it. But the point that should be emphasized is that, for a large development, the ownership of which is to be retained by a corporation, there is not even assurance that it is the cheapest in initial cost. If, instead of the rectangular "gridiron" block plan, a property of any usual area can, from the first, be divided and laid off in a more modern and attractive manner, the whole building development is at the same time capable of being made more desirable, and of being built at an actual saving in initial cost, as well as a considerable later saving in maintenance for the buildings themselves along with the upkeep of the roads and other utility improvements.

Before undertaking to illustrate this point, it is worth while to give a certain amount of consideration to the case of the development where the manufacturer has to take care of his operatives in housing that *must* be built upon lots in communities partly built up, in districts where the streets and utilities are installed, and he has not sufficient undeveloped property to handle it in any other than a conventional fashion. Even then, he should not have to give up the ideals for which, it is to be assumed, he has some little appreciation. It is worth while to show a solution of a problem where the architect had a conventional type of lot to deal with, and for which he has yet been able to find an economical, attractive, and modern solution.

The plan, Fig. 28, of the house referred to, shows a four-family tenement building, two families to a floor, each with a separate entrance and doorway, and a living or sleeping porch at the rear. Each apartment consists of a large living and dining room, a small kitchen, two bedrooms and a bath, with adequate closet facilities. The entire building, exclusive of porches, covers 1790 square feet (895 feet to each half), and cost a little over $16,000. Each apartment rents for $38 a month, so that the entire building brings in an income of $152 a month or $1,824 a year, a little better than gross ten per cent. on the investment.

The exact dimensions of the building are sixty-four feet long, by twenty-eight feet deep, and again the porches are not included in these dimensions, but, provided the Corporation owned only two adjacent 50 foot wide lots, the building here shown could go upon them easily and still leave eighteen feet over on each end, while its comparatively shallow depth leaves ample land in front and back for planting, kitchen gardens or playground development.

Fig. 27 shows the appearance of these buildings, as constructed at Harrisville, R. I., and in Fig. 29 is shown the comparative disposition of a series of buildings of this plan and a row of the ordinary "two-decker" type of two-family, five-room tenements. The economy in the land covered is evident. In addition, it is to be realized that the openness of the plan in the one instance, compared to the cramped and crowded row of buildings in the other, means far more than here appears in health, air, sunlight, cleanliness and happiness of the inhabitants.

In the upper portion of Fig. 29 is shown how the plan, Fig. 28, is much more adaptable to variations of arrangement that would give the residents the benefit of a still greater outlook and exposure than would be possible from a conventional arrangement of these units, as they appear, for instance, on lots 7, 8, 9, 10, in the upper right-hand corner of the illustration. Nevertheless, the superiority of the plan, even in that disposition, to the conventional narrow "two decker" type of arrangement, as it appears in the same four lots in the line below, is obvious. Not only is the distance between the buildings twice as wide, in actual dimensions, but the fact that the ends of the buildings are only twenty-eight feet in depth, instead of the fifty-eight to sixty feet depth of the narrower type of plan, does as much again to secure both outlook and openness of aspect for their tenants.

A comparison of the plans of the first eight lots in the upper line, with the same number in the line below, shows the amount of land area in the upper portion will take care of twenty families, while the same area as planned below will accommodate only sixteen families. The opportunities are many for planting, and for the use of trees without crowding or darkening the rooms, in the good-sized courtyards secured alternately at the front and rear of the buildings in this "echelon" arrangement. It is also possible to relieve from monotony and sameness the street fronts, while a very slight variation in the details of the entrances would lend them a note of real distinction.

Figure 30 is another plan for a four-family dwelling, of smaller size, intended for newly married couples. Each apartment has three rooms, the size of the building is sixty-two feet long by twenty-four feet deep, and, exclusive of porches, it covers an area of 1,308 square feet, 654 to a side. The cost of this plan, built a year ago, was slightly over $12,000, or $3,000 per family and at the rate of $1,000 per room. It could be utilized in the same way as the larger plan previously illus-

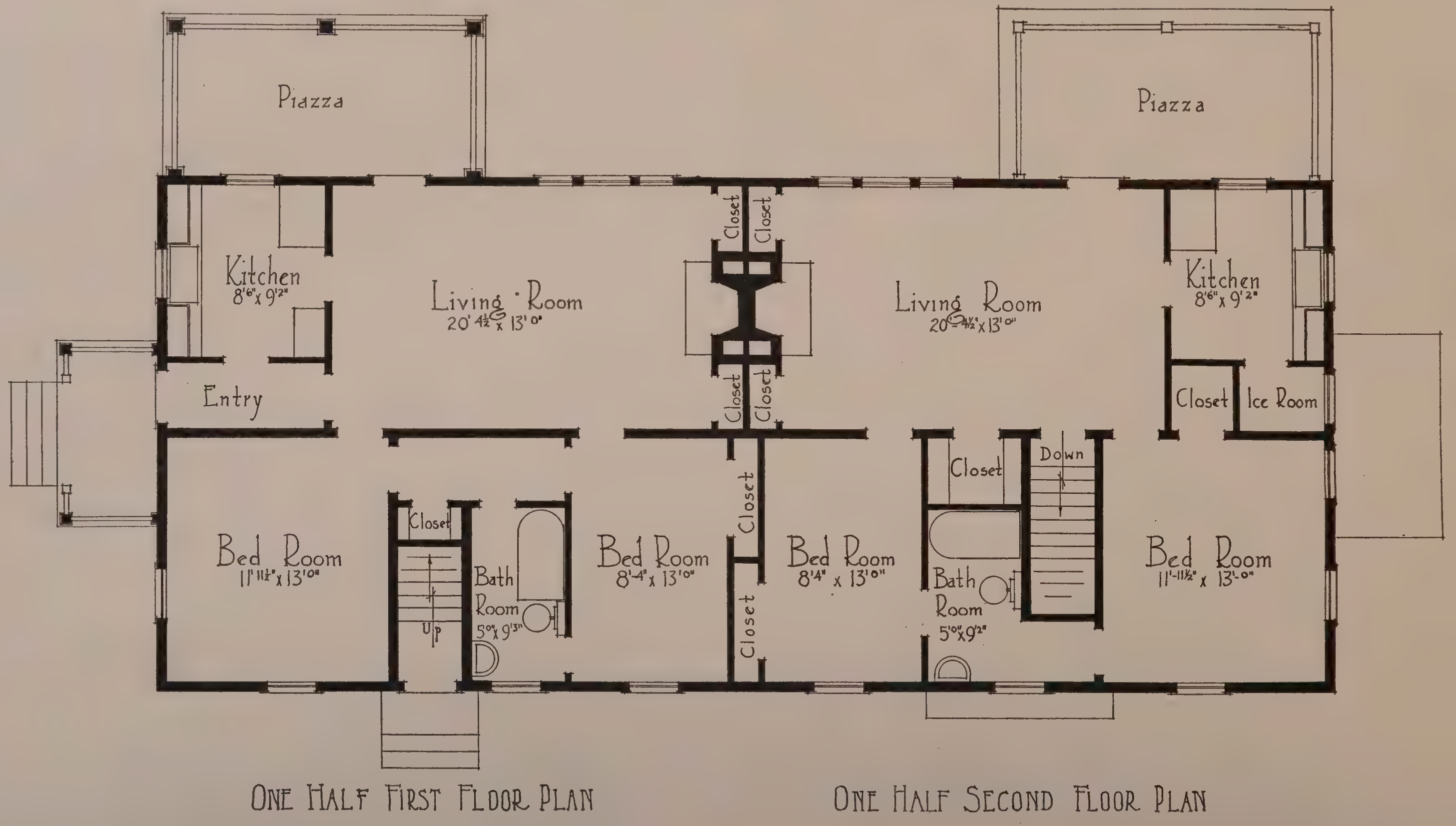


Figure 28

Plan of Four-Family, Four-Room Village Type

APARTMENT HOUSE FOR STILLWATER WORSTED MILLS, HARRISVILLE, RHODE ISLAND

John Hutchins Cady, Architect

trated, either on smaller isolated lots in any mill community, or in the development of a larger tract of land, in irregularly grouped and related units, as indicated in Figure 29. This sort of building, intended for the small family, seems, at the present time, to be the plan that is most in demand for company housing purposes in New England.

This small four-family apartment is an excellent example of the type of arrangement that is appropriate and desirable for the small village, where it is generally best to conserve the effect of a congregation of units, such as most New England towns possess, and where the apartment building, if it is used at all, should be made to resemble as nearly as possible, in its exterior appearance, the other individual units, each housing a single family, of which the entire community would be composed. Indeed, the grouping under one roof, of several families, in a larger, better looking structure improves the appearance of the entire village.

In the same village group where these four-family houses are built, the Abbot Worsted Co., have also erected a number of small individual dwellings, equally distinctive in appearance, of five and six rooms each, about as small a single family house unit as can be employed.

Like most other mill settlements in this section, however, there has been no real attempt or expectation to provide this housing upon any practical basis of adequate financial return. For instance, these three family apartments are being rented on an $8.50 monthly basis, to the younger married help in the company's employ. They confidently count on thus securing a better class of more stable and contented employees, and are, to this extent, willing to aid their younger men employees in marrying and "settling down." On a total monthly return from the four apartments of $34.00, or $408.00 a year, from the entire building, it should be obvious that the company, in embarking upon its housing enterprise at all, is either undertaking it only of necessity—or upon an expected return more of human than financial welfare to their corporation. In this same development, the five and six room single family cottages are also rented for $14.00 and $16.00 a month, an equally unprofitable financial structure, figured upon that basis alone.

Nevertheless, this company, and most of the mills now being established in the southern states, are locating their large buildings on sites selected for convenience to power or transportation lines and have this problem to face. These locations are often so remote from established centers of population, that they will be compelled to provide no inconsiderable part of the housing facilities needed, to bring families near enough to the mills to obtain their necessary labor supply. How many of these projects in this country are now being planned upon any proper and far sighted program? How many will ever bring in any adequate return upon the money invested?

Judging by the history of experiments conducted in this country in the past by similar corporations, there is little room for optimism in the replies that might be expected. Certainly, the Government report quoted in this article contains no proof of adequate solutions of this fundamental problem ever having been evolved in this country in the past. And so far as we have been able to become acquainted with the most contemporary of developments now under way we are unable to discover any successful attempts being made in the present. While, judging from the evidence presented by both, we are confessedly quite incapable of anticipating that anything better is likely to be evolved in this direction in the immediate future! Evidently, our much vaunted American business man leaves his intelligence and discernment both at home, when he goes down to his office to initiate or undertake the development of any work along these lines. Why is he so much more short-sighted than his European competitors? And how can he expect to keep contented the skilled help from England and Germany that he is now alone permitting to enter—under the new immigration law—into these United

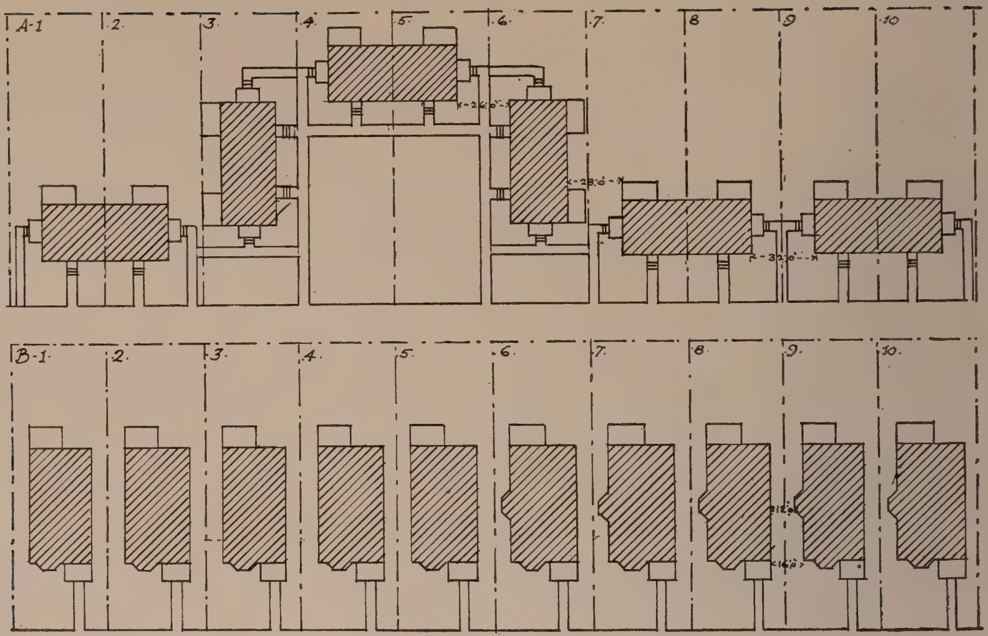


Figure 29
Comparative Adaptability of Village Apartment Plan types of Figures 28 and 30 to Land Utilization, Shown in Upper Row, With Ordinary "Two-Decker" Plan, Shown in Lower Row Lots

States, when they have been educated to expect so much better housing conditions in their old homes than have been provided for them in this new country—either by Employer, Municipality or State?

In a report recently issued by the Department of Labor and Industries of Massachusetts, are given the results of a questionnaire in regard to the housing of employees sent in April of this year to all the cotton textile manufacturing companies in the State. Certain of the conclusions thus established are of interest in connection with the study of company-owned and rented housing, so far as they apply to the territory concerned. All the 187 companies in the State replied, and it was thus established that 62 owned or controlled such housing, and from the information supplied by them to the Department it appeared that these companies controlled a total of 2,564 houses containing 31,533 rooms, or an average of six rooms each.

These houses took care of 10,257 employees of these companies, out of about 46,772 normally employed, or 21.9 per cent. From this it must appear that a number of the houses are apartment, boarding or rooming houses, which would in part explain the large average number of rooms per house; or that each house contains an average of four employees, a large number even allowing for the system of renting out rooms, often followed in mill communities. In further tabulation, however, it would appear that "semi-detached" and "row" dwellings were grouped as one structure in each case; for the report states that, of the 31,533 rooms, "13,657, or 43.3 per cent, were in semi-detached dwellings; 10,786, or 34.2 per cent, were in 'row' type of dwellings; 4,084, or 13 per cent, were in detached dwellings and 3,006, or 9.5 per cent, were in other types of dwellings" (largely apartment houses). "The average number of rooms in detached dwellings was 7.4; in semi-detached, 10.9; in row, 18.00, and in others 17.3, with an average for all dwellings of 12.3 rooms."

From this statement it would appear the two houses contained in one semi-detached dwelling averaged 5.45 rooms to each family, and probably the "row" dwellings were principally of three and four house groupings, each house of five to six rooms, as this fact only would explain the average of 18 rooms to a "row" house. Thus we find that the statement elsewhere contained in this article, in regard to the types of housing most usually preferred in New England mill towns, are supported by these official figures, as far as they have been compiled with regard to one—and that the most important—industry, in the single State of Massachusetts.

The 62 companies supplying housing to employees were located in 36 municipalities. As was to be expected, a tabulation of the towns and cities shows that the larger cities contained less and the smaller towns more of this company housing. Although no statement is given in regard to the 125 companies who supply no housing to their employees, it would undoubtedly develop that the majority of these would be found located in the larger, well settled and built up communities.

Classified according to population, three cities of over 100,000 inhabitants contain 8 corporations supplying 184 houses to 556 from among 12.425 employees, or 4.5 per cent. Two cities of over 50,000 but less than 100,000 population contain 4 corporations supplying 42 houses to 398 from among 5,210 employees, or 7.6 per cent. Five cities of between 25,000 and 50,000 inhabitants contain 11 companies with 275 houses containing 1,740 of 8,789 employed, or 19.8 per cent. Three cities and six towns of between 10,000 and 25,000 inhabitants contain, the former, 6 companies with 229 houses to 880 workmen among 2,605 employees, or 33.8 per cent; the latter, 10 companies with 701 houses accommodating 3,245 of 9,757 employees, or 33.2 per cent. Nine towns of between 5,000 and 10,000 population contain fourteen companies with 827 houses accommodating 2,741 of 6,268 employed, or 43.7 per cent, and, finally, in towns of less than 5,000 population, there are 9 textile companies in Massachusetts owning 306 houses, taking care of 697 from among 1,718 employees, or a total percentage of 40.6.

In regard to materials employed for these dwellings the report states that, of the 547 detached houses, 517 are of wood frame and 20 brick construction, with 7 of cement. Of the 1,244 semi-detached dwellings, 1,131 are frame, 71 brick, and 10 cement. Of the 599 row houses, 300 are frame and 299 are brick. There are 41 houses of "other" types of construction, besides those classified. The percentages vary somewhat from those based on number of rooms. The detached houses make up 21.3 per cent of the total; the semi-detached 48.6 per cent, the "row" 23.3 per cent and all the "other" types, 6.8 per cent.

The largest housing project was one where 1,174 employees, or 55.9 per cent of the 2,100 normally employed, occupied 213 company houses of 3,041 rooms. The greatest percentage of employees housed by any one company was 318 employees in 39 houses of 354 rooms, or 88.3 per cent of its total of 360 workmen. The "density of population" in these company houses, by the way, provides food for some thought, although in fairness it should be added that, in the case of the "largest" example mentioned the 213 houses listed contained 7 detached, 139 semi-detached, and 57 "other" types of housing, referring to tenement and rooming houses, which in itself partially explains the situation.

Unfortunately, the report gives no information in the matter of costs of buildings, or the method of figuring returns on the investments of the companies involved. Neither does it give any complete returns in the matter of rentals. It is to be hoped that these important economic phases of the problem may be covered in later reports. The single paragraph contained in this report that is concerned with the matter of rentals, however, is quoted below. Unfortunately, it

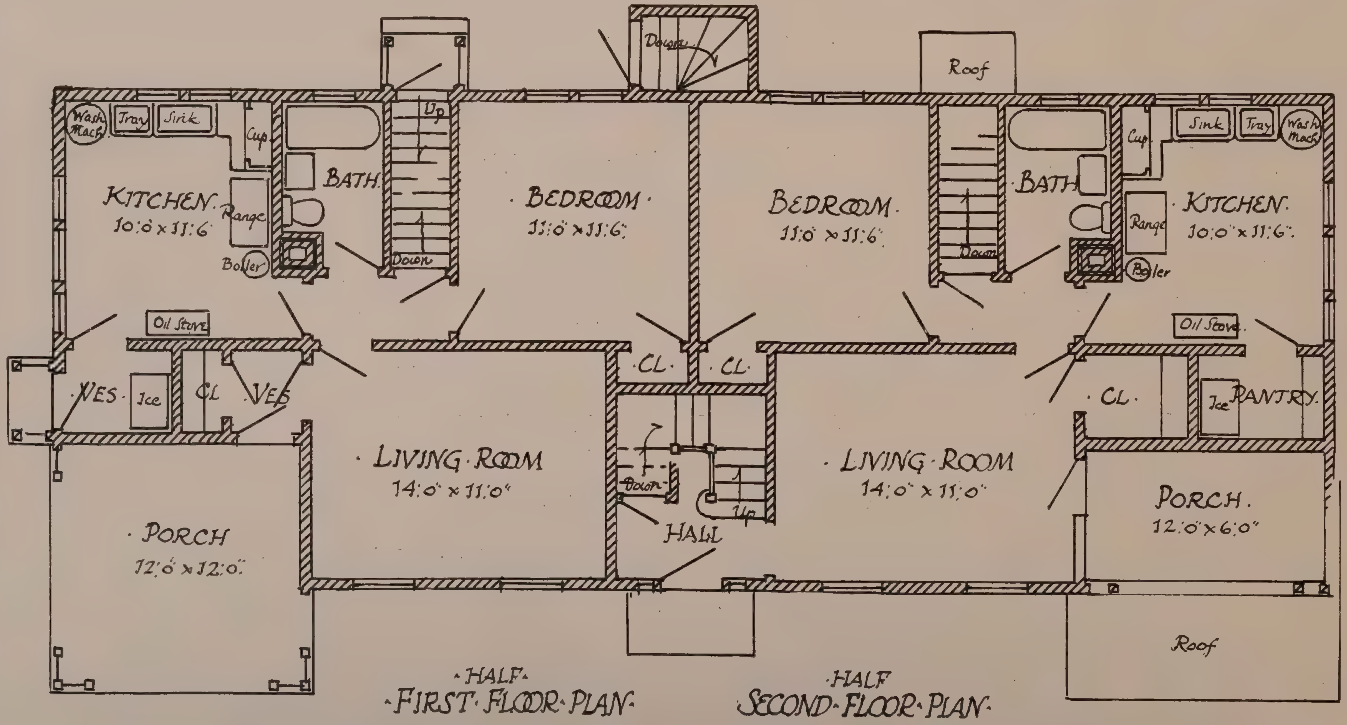


Figure 30.
Four-Family, Three-Room Cottage Apartment Building
ABBOT WORSTED COMPANY, FORGE VILLAGE, MASSACHUSETTS
Clifford Albright, Architect.

covers only three "communities," and no clue is given either as to their size or location. The paragraph follows:

"In Community A there are 493 tenements, rented on a weekly basis, in various types of dwellings, averaging six rooms per tenement. Of these tenements, 273 rent for $2.50 per week, only 17 renting for more than that amount and not exceeding $4.00 per week; the remainder of the tenements rent for less than $2.50, and some as low as $1.13 per week. . . . Community B consists entirely of row type of brick buildings containing, in all, 238 tenements, averaging nearly five rooms each. More than one-half of the tenements rent for from $5.50 a month to $6.30 a month. In Community C there are 212 tenements of various types of dwellings, averaging between five and six rooms per tenement. The largest single group is one of 50 tenements of five rooms each, renting for $2.19 per week per tenement. Including this group, more than one-half of the tenements rent for less than $2.20 per week, and as low as $1.77 per week."

Further information in support of these facts, and the most recent official data to be obtained in this field, may be secured from the Bulletin issued in October, 1920, by the Bureau of Labor Statistics of the U. S. Department of Labor, on "Housing by Employers in the United States." On the whole, this publication does not supply us with much information on apartment housing, with which we are now most particularly concerned; although it is possible to glean occasional incidental information on tenements, as well. But on the broader outlines of this whole matter of "Company housing" we can find some facts that supplement and may lend authority to certain statements that have been made in these articles.

The large number of employees per house or room is remarked upon, and in explanation is given the fact that many companies favor tenants who promise them the largest labor supply from their occupancy of a property; in other cases a set rule is made demanding an average of at least one employee from each room rented, and conditions of over-crowding are frequently mentioned. The percentage of distribution of the four following types of houses in New England textile towns is given as "detached houses, 15.6 per cent; semi-detached houses, 29.9; row houses, 32.0, and flat, apartment, and other types as 22.5." The average sizes of the housing, in rooms, is given as, three rooms, 1.8 per cent; four rooms, 8.5; five rooms, 23.9; six rooms, 32.2; seven rooms, 16.6; eight rooms, 3.1, and nine rooms and over, 13.9. It is also remarked that the average of 5.2 rooms per family is higher than in the southern textile and western mining communities.

Some slight information in this report is also included, on the matter of costs and rentals, both unfortunately now much out of date. Some four family stucco-on-frame apartment buildings of five rooms and bath to the family cost, in 1914, $1,063 per family, a rate of $213 per room. The rooms were small, and not conveniently planned, and the rental was $13 a month to each family. Some four-room four-apartment buildings, built at the same time, cost $975 per family, or $244 a room, and rented at the same amount per month, or $13. Some larger brick apartments, housing sixteen families, built the following year (1915), cost $2,375 for a five-room apartment, or $475 a room, and rented at $13 a month; while some six-room apartments of the same date, cost $2,679, or $466 a room, renting at $15.50 a month.

Of 10,679 dwellings studied for types of plans, and the dates of construction of which were known, it was found that "before 1881, more brick row dwellings were built, for use singly or as flats, than either detached or semi-detached frame houses," but that, since that time, almost *no* brick rows had been erected. Between 1891 and 1900, one-third the houses erected were semi-detached frame houses; fewer being built in later years, until 1916 and 1917, when rather more than one-third the number of houses constructed became of the two-family type.

This whole survey covered 213 different companies, operating 423 various establishments in different sections of the country, and employing a total of 462,991 men, of whom 160,645, or 34.4 per cent, were living in company-owned houses.

Of the textile employees alone, 19.3 per cent of the 10,624 then covered in New England (and mostly in Massachusetts) lived in company houses; while 71 per cent, or 25,289 of the 35,643 employees of the southern textile mills were already so housed, largely, of course, because of the fact that these mills were generally placed where natural power was available, and so they were most often not near already established centers of labor supply.

In support of the tendency toward the gradual removal of labor-requiring industries from cities to towns or country, this same report, in 1920, had commented that "decentralization of industry" was already in marked evidence. In thirteen industrial districts, it had then been shown by census returns that from 1909 to 1914 the proportion of wage earners living in districts lying outside of towns and villages had increased 12.9 per cent, while the increase in proportion within the central zone itself had been only 6.1 per cent. It was further remarked that, at the time the report was being compiled, "practically all company housing developments recently undertaken are new town developments or are located in the suburbs of cities."

Of the 236 employer's housing enterprises investigated, 16, or 6.8 per cent, were on lots already laid out in established dwelling sections; 31, or 13.1 per cent, were in new real estate sub-divisions; 16, or 6.8 per cent, were in new suburbs of older towns, and 157, or 66.5 per cent, were in altogether new towns or sites hitherto undeveloped, showing that the companies themselves had had entire liberty in the laying out of these new developments, in over two-thirds of these ventures. A fact that is even more true today, when we are opening so many more of these industrial plants in the south rather than in the north; the middle west rather than the east!

The type of building we are illustrating this month, is the kind that we could appropriately use in the smallest village, and whose exterior treatment would be particularly appropriate to any New England town. It would go upon a lot of very low cost, under these conditions, possibly amounting to only three to five hundred dollars, so that the cost of the property, per family housed, would be negligible. At the most, it would run only from $100 to $200, while the cost of construction, per family, would amount to about $4,000. Even this is far less than would be required to build a small separate cottage, or even a house in a "row."

In a larger town, or in a suburb of a city, where property values are higher, the cost of construction would still so far outweigh the land value that this type of plan could be advocated with entire consistency. If the lots were even as valuable as $1,000 apiece, still the two lots necessary for this width of building would only amount to $500 per family, or one-ninth of the total investment of the entire unit.

In the city suburb, it is more than probable that both labor and material costs would be on a scale that would carry the cost of the structure to a higher total, say even to $20,000, in which case the proportionate cost of the land would be relatively still smaller. And in the event of the labor costs reaching a higher average, the rentals of the apartments themselves would also probably be correspondingly higher.

As a general rule, it may be said that the cost of a building remains the same, irrespective of property value. That is, in the same suburb, it would cost no more to build this structure upon property worth $5,000 than upon lots worth only $2,000, while the rental for the better location would be even higher in its investment return, than the advance in the total cost made by the increase in land value alone.

In a comparison of the costs of city and suburban housing conditions, there is not so much difference as is usually supposed.

The land values in the suburbs are less, but in the article in the June issue, it was disclosed that the actual cost of the land containing a New York City apartment housing 108 families was only about $30,000 in a crowded section of that city, while the construction of the building ran about $150,000. Today the cost of building is rather more than doubled; but it is a question whether, even in New York, land could not now be secured for approximately $60,000. Upon this basis, then, the land value continues to remain at about one-seventh of the total investment cost.

In a better suburban or larger town location, a much larger sized lot would probably cost anywhere from $10,000 to $18,000, and it would carry an apartment building of 18 to 24 families, of the four-room type that was shown in this series of articles in May, in Fig. 6, and that would have to be estimated today to cost from $60,000 to $80,000. A rough comparison would show that, while the city property would now cost about $3,350 per family, the suburban type would cost about $2,900, a difference so small that it would actually more than be made up in the probable difference in rental values. The rooms in the suburban apartments would be much more spacious, have more outlook, and command more ground in the buildings' surroundings, but the probable wage income of the family in this situation would still have to be figured as con-considerably less than in a larger and more congested metropolis.

In addition, there would be some slight saving in the construction costs in a suburban locality. The land would cost less, the labor would be less expensive, taxes might be more to the thousand, but insurance would be lower and the utilities slightly less. Materials also might conceivably be less, as some of them would probably be manufactured nearer at hand than would be the case in a larger city.

But to offset all this, there is the lower scale of wage return to the occupants, which would be the most effective means of scaling down the whole rental and living plan of the community.

Nevertheless, we must face the fact that, so far, the tendency of development of the American group has been away from the rural and toward the urban location. Our larger city ganglions are increasing with constantly accumulating impetus. The trend of population is toward these larger groups. We have not yet found any certain and universal motive that is likely to operate with sufficient power to stem this natural and already well established trend.

Can we depend upon our manufacturing corporations to accomplish sufficient in this direction, even if they generally come to recognize it to be to their own advantage; and so begin to base their experiments upon former successful precedents, and to correct the many mistakes they have already made in this direction in the past? From the records above quoted it appears more than doubtful. Even if undertaken intelligently and successfully, it will at this late day be but a ripple upon the surface of a current that has already set in strong and wide.

Note: Through an oversight we neglected to give credit to Ernest Flagg as architect of the Charlesbank Homes, Boston, Massachusetts, published in our July, 1924, issue.

The LIBRARY OF THE ARCHITECT

By
A Lawrence Kocher

PART II.

THE LITERATURE of architecture may be said to have had its origin in modern times; at any rate so far as abundance and variety are the signs of it. The extensive literature of "the orders," the plates of Classical and Renaissance monuments, the volumes of criticisms and rules governing the art of building are to be traced back no farther than the Renaissance. Strangely enough, the great bulk of our literature of architecture is subsequent to any of the recognized periods or styles of architecture. The ten books of Vitruvius, ("de Architectura") are from the first century of our era, but they are the only surviving publication on architecture from Roman times and their greatest influence began during the Renaissance. The invention of printing stimulated architectural thought and writing and brought in its wake countless changes in the art of building.

MR. EGERTON SWARTWOUT

When asked what books the young architect or draftsman should own, Mr. Egerton Swartwout comments that most young draftsmen that he has known didn't own any at all, but supposed that they do acquire them after a while. He says that the "books like Mont St. Michel and Chartres and the Autobiography of Benvenuto Cellini can be obtained from any public library and are undoubtedly interesting, but have not much to do with architecture. I think I can best answer your question by simply telling you the books that I have found most useful myself. As you may know, I am what is called a Classicist, in that I have done chiefly monumental *stuff,* and consequently what appeals to me would hardly appeal to everybody, particularly those interested in small houses or city planning or Gothic work.

"One of the most valuable all-around books in an office, I have found, is Buehlmann. There is an enormous amount of *stuff* in it, very clearly expressed and it is fairly accurate. Canina is very valuable, because of the enormous amount of *stuff* it has and because of the general classic character of the drawings. I grant you that the details and restorations are not very accurate but still the things have a classic look, which is more than I can say of the French restorations. There is a book by Charles Normand, entitled 'Parallele des Ordres d'Architecture,' which is a very valuable book on the orders, and as far as I have been able to prove, is quite accurate and the plates are good. The restorations of D'Espouy are valuable, although sometimes a little misleading in their character. Of course, there is always our old friend Vignola, who is a handy man around the house, although not to be taken without a thorough knowledge of what he is. I think these books would give the classical student a very good idea of what the antique stuff was. From a standpoint of design, I have always been interested in the publication of the early 'Grand Prix' drawings. These, as you know, are engravings and run from about 1790 to 1815. I think there are four volumes. Some of these are quite rare. There is also a book fairly recently published by Richardson, entitled "Monumental Architecture in Great Britain and Ireland." It has a good deal of interesting English work of Georgian character and particularly some of the Irish and Scotch *stuff* that is not often published. The publications of Early American Architecture, of which there are many, are all good and valuable for an American architect. The large book on 'London Churches' and Belcher's 'Later Renaissance in England' are good. I won't attempt to go into the books on French architecture because I am not very familiar with them. I think Guadet could be read with interest. Possibly there is a translation, although I do not know of one. The above is only a fragmentary list, but as a matter of fact I don't use books very much and my library is not large. I have always regretted that there was not much literature on classic subjects. I am referring of course to the text. There are a good many histories and dictionaries but they are almost entirely written by archeologists and historians and not by practicing architects, or rather I should say by practical designers. Consequently the authors have been unable to place themselves in the position of the artist or architect who designed the old structures. I myself have written a few monographs on this subject which have been published in various magazines. They are not at all complete and the illustrations are not much, but the later series of articles I think I called 'The Use of the Order in Modern Architecture,' are the result of a good deal of experience in practical design and I think contain some things that are not to be found elsewhere."

MR. IRVING K. POND.

Mr. Irving K. Pond furnished a list of books for the use and constant companionship of younger, (and as for that, older) architects and draftsmen with ambitions. "I gave a limited list of that nature in the introduction to my own book, 'The Meaning of Architecture' (Marshall Jones, Boston, 1918) which book, among others, I am going to add to the list I am giving you.

"The books cited in my introduction were:

Phillipps, L. March—Art and Environment.

"Taylor, H. O.—The Classical Heritage of the Middle Ages.

Babbitt, Prof. Irving—The New Laocoon, an Essay on the Confusion of the Arts.

"Bourne, George — The Ascending Effort.

"Smith, S. C. Kaines—Greek Art and National Life.

"Murray, Gilbert — Four Stages of Greek Religion.

"Holborn, Ian B. S.—An Introduction to the Architecture of European Religions.

"To this list I add:

Phillipps, L. March—Form and Color.

"Emerson, Ralph Waldo—Essays and Poems; and good anthology of English Verse,—say the Oxford Book of English Verse—and some standard volume of sonnets (The Little Classics are good editions and can be carried in the pocket); Shakespeare; the Bible; Mark Twain; 'The Substance of Gothic' by Ralph Adams Cram; 'The Meaning of Architecture' by Irving K. Pond; Owen Jones or Racinet; Book of plates covering the great styles of Architecture. Read works on modern science; on astronomy, on modern chemistry; these will stir the imagination. Read books on the Evolution of Religion in its broader aspects, these will quicken the intellect and the emotions. Learn poetry by heart to have at command a solace or a stimulant for every mood. Every work is a picture of an idea and so, in reading, try to visualize the content. Read understandingly. Take nothing on mere say so; make everything square with your own inmost nature before you accept and make it part of yourself.

"But for sheer beauty of style the English Bible is not to be exceeded and should be read and passages committed to memory for that if for no other reason. On a par with the Bible are passages of Shakespeare, which should be at one's command. In reading one must keep abreast the swiftly running current of life; history, ancient and modern, and philosophy, ancient and modern are necessary to a fair understanding of modern trends and conditions. A sense of humor should be cultivated and 'Mark Twain' can contribute to this phase of life and he is a fine stylist. The young architect will not read too much of good literature, and what he does read must stir the imagination and appeal to the ethical and the aesthetic judgment."

Mr. Elmer Grey.

"I have felt for years," says Mr. Elmer Grey, "that educational processes for architects, both by means of the college and those of the office, were not broadening enough. Our colleges and our architectural offices are too prone to turn out men who are merely draftsmen and will always remain draftsmen, whereas, the object should be to turn out architects. The difference is, of course, a vital one and consists very largely in breadth of view. Just as you say, the young architect should be a serious student as well as a capable draftsman, and this should mean a student of human nature as well. The way men live and transact business should interest him and why they do thus and so.

"Therefore, I should by all means recommend a course of reading that would have a tendency to enlarge his grasp of affairs. For this purpose I suggest the following:

"Grimm's—Life of Michelangelo.

"Benvenuto Cellini—Autobiography of.

"Reynolds, Sir Joshua—Discourses on Art.

"Patridge, Wm. O.—Art for America.

"Mabie, Hamilton Wright—Essays on Work & Culture.

"Mabie, Hamilton Wright—Essays on Books & Culture.

"Mabie, Hamilton Wright—Essays on Nature & Culture.

"Emerson's Essays."

Mr. Aymar Embury II

Mr. Aymar Embury II believes very thoroughly that it is essential that an architect should have a broad acquaintance with the "background" of the various architectural periods and that this can be gained better through the history and literature of the various countries than by any books about architecture.

"I would strongly advise, where possible," says Mr. Embury, "the reading of contemporary historical documents as you suggest in the Autobiography of Benvenuto Cellini. For example, Herodotus is full of interesting things about Greek, Persian and Egyptian architecture. Vitruvius ought to be read and one of the early Roman histories, possibly Suetonius or Dion Cassius. The 'Chronicles of Croyland' contain some very interesting information about early English construction and I think that 'Froissart' will enable people to travel with more interest in France than any guide book in the world. I like also memoirs as giving a personal side of history which one doesn't see otherwise. For example, Philippe de Commines of the time of Louis XI and the Memoirs of Sully of the time of Henry III and IV. I think also that an architect should read especially books upon the minor arts, of which occur to me 'The Art of the Plasterer' by Bankart, and the 'History of the Signboard' by Larwood and Hotten, in addition to the strictly architectural books.

"I think no architect can be considered really educated until he has looked over Villard de Honnecourt, and such a very informative book about Renaissance French architecture as Blomfield's 'History from 1494 to 1661.'

"On American work I myself like Asher Benjamin's handbook and 'Colonial Furniture in America' by Lockwood, extremely well.

"Richardson and Gill's 'London Houses from 1660 to 1820' is a very illuminating work on English construction of that period."

Mr. Henry Bacon.

"I believe," said the late Henry Bacon, "that young architectural draftsmen in our offices should acquaint themselves, by means of photographs and drawings, with the best examples of work executed in the past. In becoming acquainted with this work the student should make a comparison of the actual sizes of the ancient and modern structures.

"He should study Vignola and Gwilt or Fergusson. He should study the history of countries, especially Greece and Rome, and should become acquainted with the mythology of the ancients. He should read Vasari's 'Lives of the Painters.' He should study the work in his own country through publications and current magazines and periodicals. It is important that he study both French and Italian in order to get the greatest good out of his visits to the countries where these languages are spoken.

"Last, it is most important that he study or travel abroad before pronouncing his education completed."

MR. HUBERT G. RIPLEY.

Mr. Hubert G. Ripley assumes that the "springald" is a designer; else, he says, "it does not matter whether an engineering draftsman is acquainted with books outside his immediate activities.

"The most inspiring and comprehensive work (as it includes the very best in a large number of monographs and standard folios) is D'Espouy, in the five or six volumes that have appeared to date. These books contain details, measured drawings, and views of the most famous buildings and monuments of Antiquity, the Middle Ages, and the Renaissance. Many of the most inspiring plates have appeared in the architectural magazines, and may be had at little cost.

"Nash's 'Mansions of England in Olden Times' gives the best that there is in domestic work in the Fifteenth and Sixteenth Century in England. Belcher and Macartney's 'Later Renaissance in England' and works on our own Colonial Period, such as 'Soderholtz' and 'Chandler,' and several recent books of moderate cost should be studied.

"*Pencil Points* is the best architectural magazine published for young draftsmen; bulletins and publications of the Art Museum contain valuable suggestions, and may be had for a series for the asking. Loose plates and odds and ends should be kept in scrapbooks and frequently consulted.

"For cultural reading, Victor Hugo gives the following list of 'Les Genies' in his work on William Shakespeare: Homer, Job, Aeschylus, Isaiah, Ezekiel, Lucretius, Juvenal, St. John, St. Paul, Tacitus, Dante, Rabelais, Cervantes and Shakespeare. 'This is the avenue of the immovable giants of the human mind.'

"Herodotus, as well as Symond's 'History of the Renaissance in Italy,' in five volumes, is absolutely essential. The autobiography of Benvenuto Cellini is one of the most interesting books ever written; and the lives of Leonardo da Vinci and Michelangelo, while not so interesting, are even more helpful. Breasted's 'History of Egypt' must be read and studied. The reading of these books will lead the individual to consulting many others and will result in a well-balanced mind."

MR. JOHN V. VAN PELT.

Mr. John V. Van Pelt says that when he asked a similar question concerning reading for the architect of John Stewardson thirty years ago, "he advised me to read Ruskin's 'Seven Lamps of Architecture,' his lectures on 'Architecture' and the 'Stones of Venice.' Unquestionably such books as Henry Adams, Mont St. Michel and Chartres are especially valuable from the literary point of view. There are inexpensive editions of 'Vasari' and such books as John Addington Symonds. Cram has written two or three books,—one on 'Ruined Abbeys' that is quite charming. Day's Windows and Moore's Gothic Architecture, and Mumford's Oriental Rugs, are good. If a man reads French, Muntz's Tapestry and Mayer's 'Le Composition Decoratif.' I believe the latter was translated, but the edition is quite out of print. I really think that my book 'Essentials of Composition' is useful to the younger men. The above list is of books of talk.

"Unquestionably the designer finds books of plates of more imperative value.

"In Colonial there is a student's edition of the Georgian Period, that is not very expensive. The architectural reprint is published in Washington.

"The following books are of interest:

"Mauch—Greek and Roman Orders.

"Buehlmann—Classical Antiquity & Renaissance Architecture.

Durand—Reprint of Parallels of Architecture.

"Gromort—Choix d'Elements d'Architecture Classique.

"Esquie—Vignola.

"Then there are all of the Guerinet

reprints which, at present rates of exchange, are not so expensive as to make them prohibitive. All of these reprint books can be obtained from William Helburn, Inc."

MR. LOUIS C. MULLGARDT.

Says Mr. Louis C. Mullgardt, "I have thought over your question of 'titles of books on the Fine Arts, Science, and Literature, which architectural students should own or become familiar with.' I am of the opinion that it might consist of a select list from a great, great many good books which may be found on the shelves of a substantial library. . . .

"Any books which intelligently convey the subject matter in an interesting manner, are good books to recommend. We know, of course, that the knowledge embraced by those three captions, is highly essential to the architectural student, and, that such knowledge, once acquired, always produces wisdom, but, very seldom, a real architect.

"Architectural students must learn what the peoples of the world have accomplished, not for the purpose of reiteration, but to use the knowledge as a concrete mass, upon which to advance architectural design which is most suitable to modern needs.—Creative genius, combined with adequate knowledge, is of course essential to architectural progress.

"I am of the opinion that too intensive cultivation inclines to still creative personality. Protracted study of antique creations, tends to evacuate the untried creative genius with which some men have been endowed and to substitute a tendency akin to archaeology.

"Archaeology has a domineering tendency in conventionalized modern thought, which retards creative genius with its overwhelming profusiveness.

"When archaeology is allowed to become rampant in an individual, then its influence is in the nature of an old orchard, reproducing degenerated fruit.

"Untrammeled creative genius is rare and supersensitive. It bears new modern fruit, provided it is not sapped by excessive grafting from the old orchard.—The fruits of genius comes, unheralded."

MR. BERTRAM G. GOODHUE.

The late Mr. Bertram G. Goodhue has submitted a library of books, which, he says "does not pretend to be at all exhaustive or indeed to cover the best known and standard books. It does, however, represent the sort of books that I personally regard as the most valuable for the kind of training the men get, or are supposed to get, in this office. I have very distinct theories on the subject of architectural education and wholly disapprove of the 'vocational' element that is usually made the chief feature.

"In the fewest possible words,—it seems to me that an architect should be, first, one born to the profession, second, an educated man, if possible a gentleman and, third, trained in the technique of his work; therefore many of the books in the enclosed list might not, would not, in fact, by most architects, be regarded as architectural books at all. There is no such thing as a 'five foot shelf' of architectural books.

Lethaby—Architecture.

Lethaby — Architecture, Mysticism and Myth.

Simpson — History of Architectural Development.

Anderson & Spiers — Architecture of Greece and Rome.

Middleton, J. S.—Rome.

Jackson, Sir F. J.—Gothic Architecture.

Jackson, Sir F. J.—Byzantine and Romanesque Architecture.

Porter, Arthur K. — Lombard Architecture.

King, Thomas—Study Book of Mediaeval Architecture & Art.

Viollet-le-Duc — Dictionnaire de l'Architecture and other works.

Bond—English Church Architecture (and other works).

Perrot & Chipiez—Egyptian Architecture.

Perrot & Chipiez — Storia della Arte Italiana.

Symonds, J. A.—History of the Renaissance (and other works).

Baxter, Sylvester — Spanish Colonial Architecture.

Baxter, Sylvester—Picturesque Architecture of Mexico.

Baxter, Sylvester—La Architectura en Mexico.

Byne & Stapley—Spanish Architecture of the Sixteenth Century.

Whittlesey, A. — Architecture of Southern Spain.

Whittlesey, A. — Architecture of Northern Spain.

Anderson — Architecture of the Renaissance in Italy.

Gotch—Early Renaissance in England.

Bankart—Art of the Plasterer.

Weaver—English Leadwork.

Prior & Gardner — Mediaeval Figure Sculpture in England.

Prior & Gardner—Affreshi Decorativi in Italia, and other works of the Collezione Artistica Hoepli.

Reynolds, Sir J.—Lectures.

Murray—Translation of Greek Plays.

Lang, Andrew—Translations of Homer and Theocritus.

Pater, Walter—Marius the Epicurean.

Cram, R. Adams—The Substance of Gothic.

Mr. Charles A. Platt.

Mr. Charles A. Platt submits a list of books which he says he has found the most useful in his practice. It is as follows:

Uhde—Architectural Forms of the Classic Ages.

Letarouilly — Edifices de Rome Moderne.

D'Espouy—Fragments d' Architecture.

D'Espouy—Monuments Antiques.

Grandjean & Famin, Andre, Daly Fils —Architecture Toscane.

Arnott & Wilson—Petit Trianon.

Ware—Inigo Jones.

Belcher & Macartney—Later English Architecture.

Macartney—Practical Exemplar of Architecture.

Field & Bunny—English Domestic Architecture.

—The Georgian Period.

Chandler—Colonial Architecture of Pennsylvania & Virginia.

Soderholtz—Colonial Architecture.

Mr. Walter Mellor.

Mr. Walter Mellor of the firm of Mellor, Meigs & Howe, feels the need of a very broad education, and the more the architect reads and knows about the several Fine Arts, Science and Literature, the better qualified he will be to fill the position he is to occupy during life.

"The two books you have suggested,—Mont St. Michel and Chartres and the Autobiography of Benvenuto Cellini, are very good, and might be supplemented by 'Form and Color' by March Phillipps, and 'Ancient Rome and Modern America' by Ferrero.

"When it comes to suggesting technical books, it is rather hard to make a selection, since it will depend a great deal upon the lines that are being followed out in the practice of the architect what these books should be. In short, a man who designs residential work would not necessarily have to have the same books one would own whose practice pertained to public buildings. However, I am giving in the accompanying list, the books that we have found to be advantageous here in this office.

Gotch—Architecture of the Renaissance in England.

Belcher & Macartney—Later Renaissance in England.

Garner & Stratton—Domestic Architecture in England During The Tudor Period.

Biogi, C.—La Renaissance en Italie.

Prentice—Renaissance Architecture and Ornament in Spain.

Vitry, Paul—Hotels et Maisons de la Renaissance.

Latham—The Gardens of Italy.

—Georgian Period of Colonial Architecture.

Tanner—English Interior Woodwork.

Macartney—Practical Exemplar of Architecture.

Field & Bunny—English and Domestic Architecture of the 17th and 18th Century.

Millar—Plastering Plain and Decorative.

Hunter—Italian Furniture and Interiors.

Revoil, H.—Architecture du Midi de la France.

Fouquier—L'Art des Jardins du XV au XX Siecle.

Tavole—Arte Italiana Decorativa Industriale.

Grilles-Ferforge—L'Art Pour Tous.

Daly—Motifs Historiques D'Architecture.

Guggenheim—Le Cornici Italiane.

D'Espouy—Fragments d'Architecture du Moyen Age et de la Renaissance.

D'Espouy—Fragments d'Architecture Antique.

De Montigny—Architecture Toscane.

Byne-Stapley—Rejeria of the Spanish Renaissance.

Piranesi—Coupes, Vases, Candelabres, etc.

Piranesi—Frontispieces, Compositions, etc., of Rome.

—Le Chateau de Versailles.

Penor, R.—Architectural Decoration et Ameublement.

Peintures Decoratives du Grand Foyer de L'Opera.

MR. THOMAS HASTINGS

Mr. Thomas Hastings submits the following, according to countries:

English:

Latham—In English Homes.

Belcher & Macartney—Late Renaissance Architecture in England.

Garner & Stratton—The Tudor Period.

Gotch—Early Renaissance Architecture in England.

Macartney—The Practical Exemplar of Architecture.

Tipping—Gardens Old and New.

Pugin—Gothic Architecture.

Italian:

Letarouilly—Palais et Maisons de Rome.

Platt—Italian Gardens.

Strack—Brick Architecture in Italy.

Geymuller—Architecture Toscane.

French:

Daly—Motifs Historiques.

Gailhaband—Monuments Anciens et Modernes.

Rouyen et Darcel—l'Art Architectural en France.

Archives des Monuments Historiques.

American:

McKim, Mead and White—The Works of.

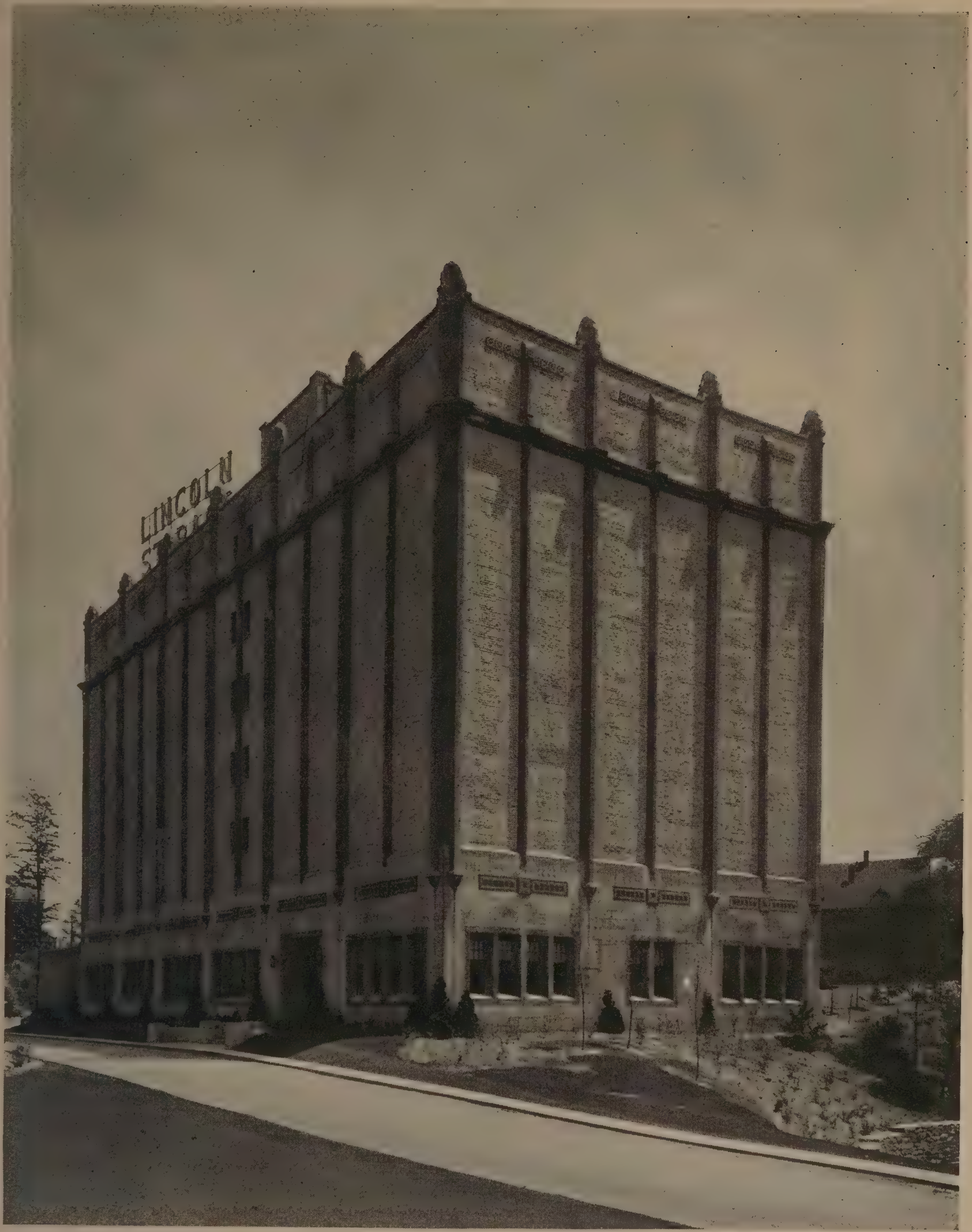
Charles Platt—The works of.

American Competitions—The Georgian Period.

BURTON-ON-THE-WATER, GLOUCESTERSHIRE, ENGLAND

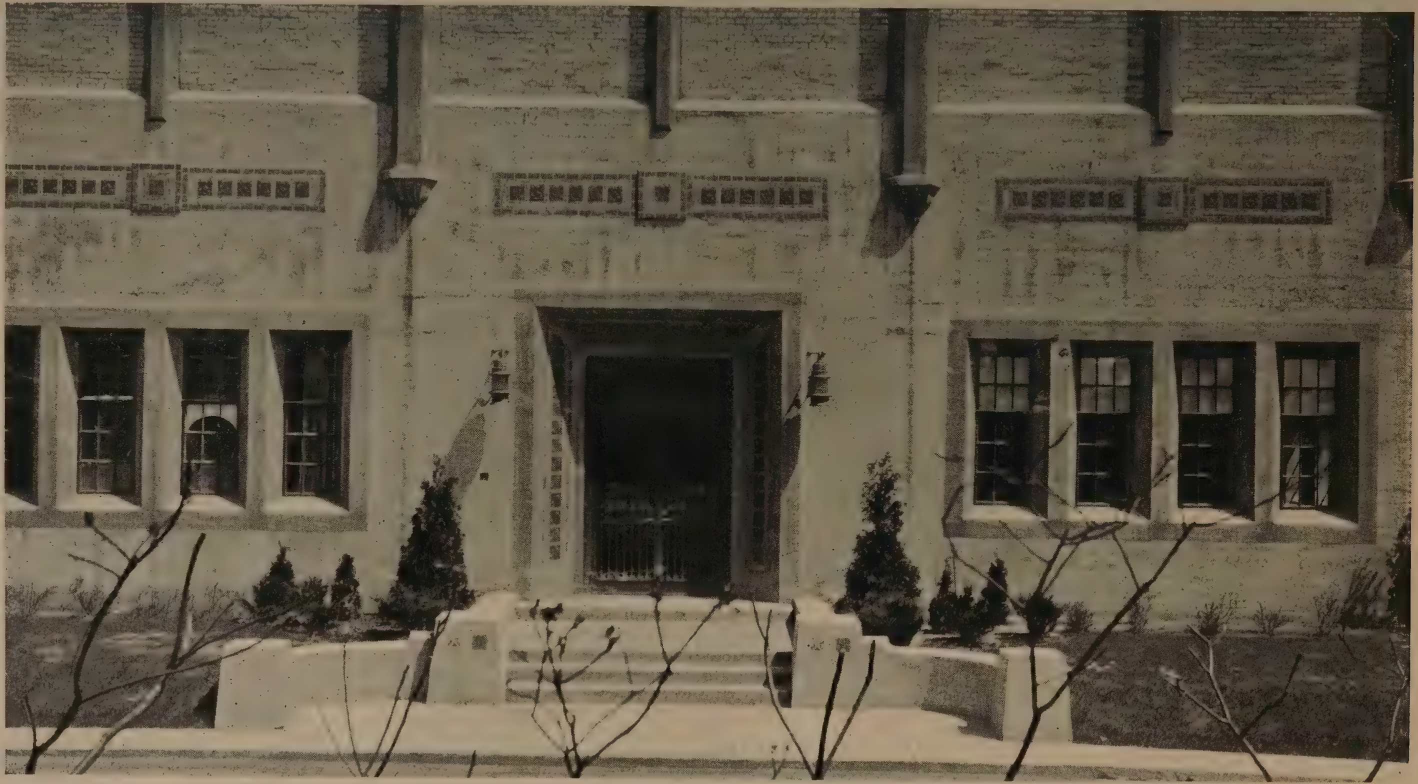
PORTFOLIO

CVRRENT · ARCHITECTVRE

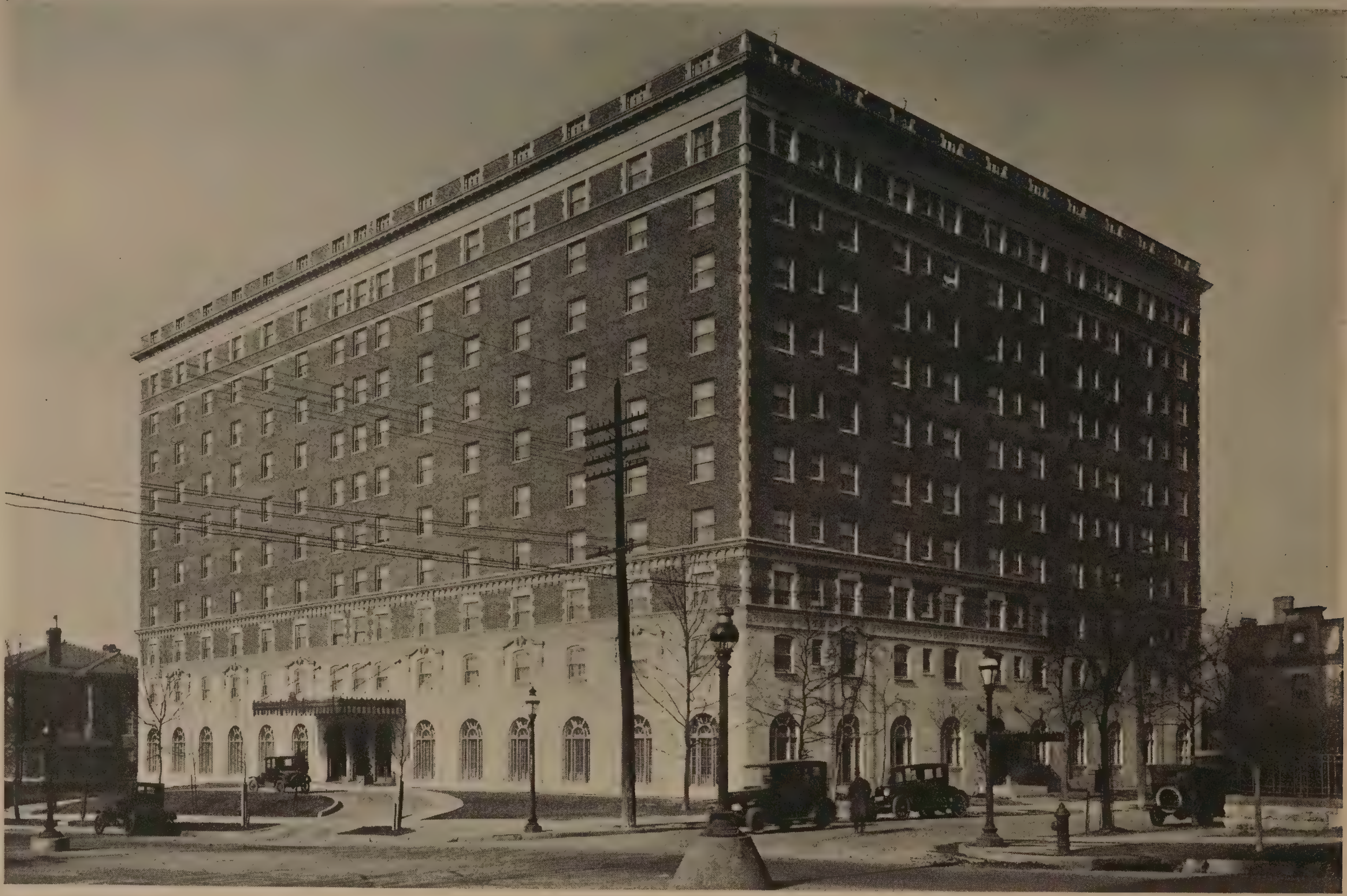


The Architectural Record *September, 1924*

Façade
LINCOLN STORAGE WAREHOUSE, CLEVELAND, OHIO
Designed by the Watson Engineering Company

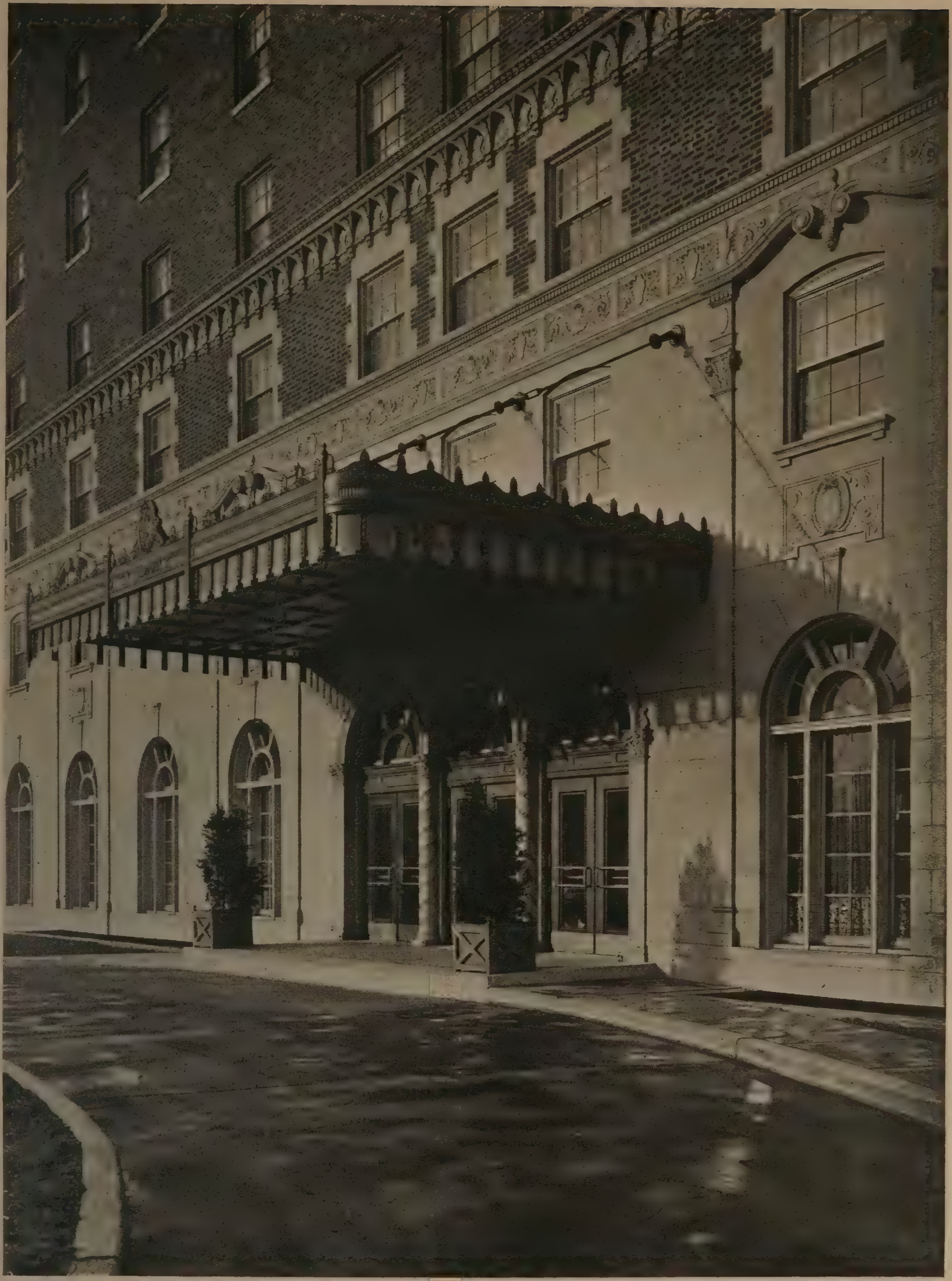


Entrance Detail
LINCOLN STORAGE WAREHOUSE, CLEVELAND, OHIO

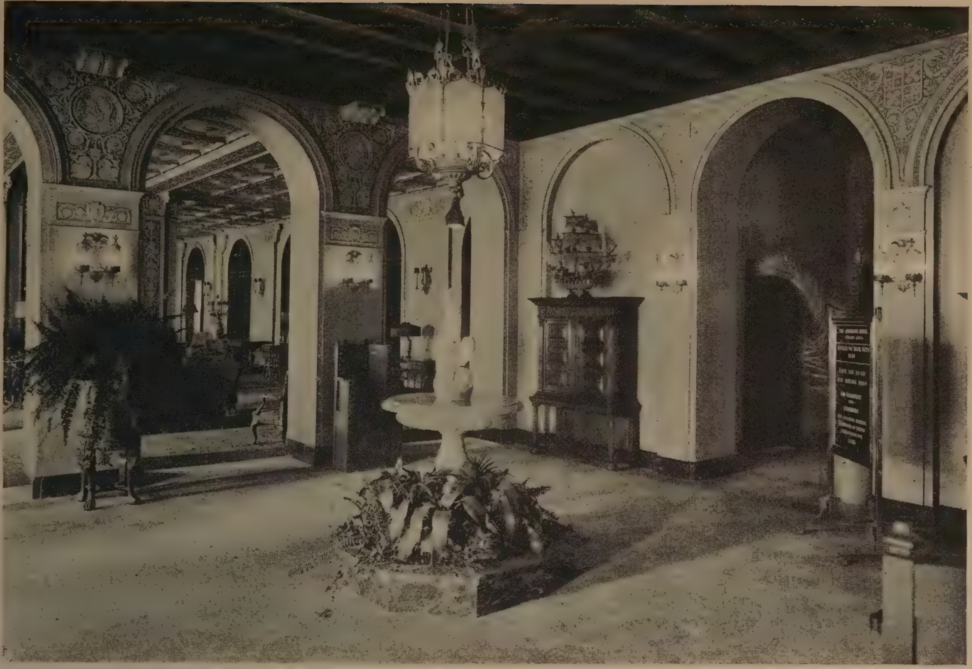


Façade

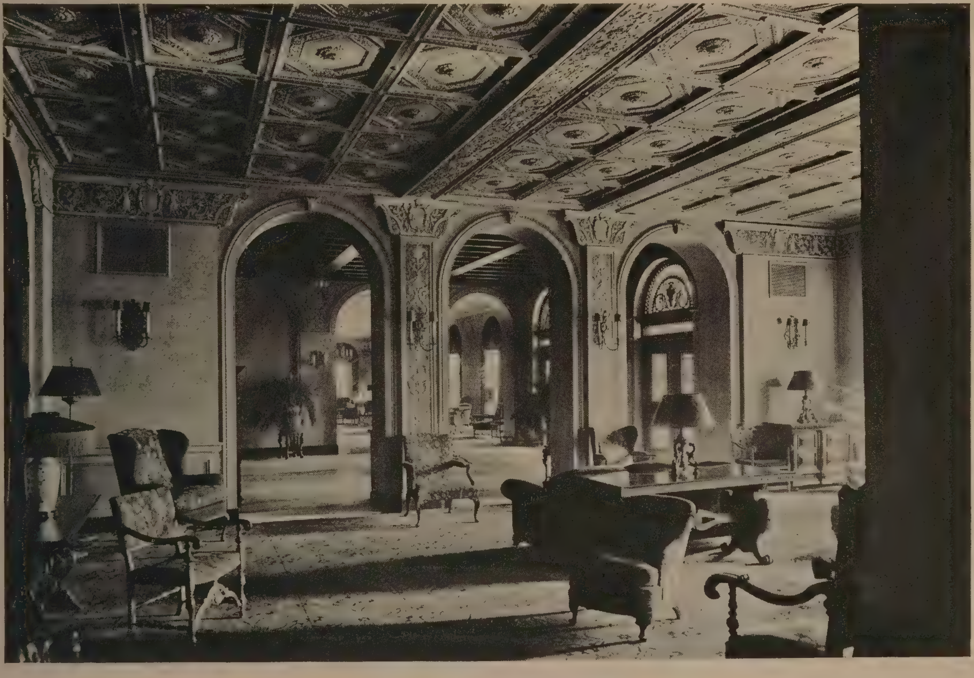
CORONADO HOTEL, ST. LOUIS, MISSOURI
Preston J. Bradshaw, Architect



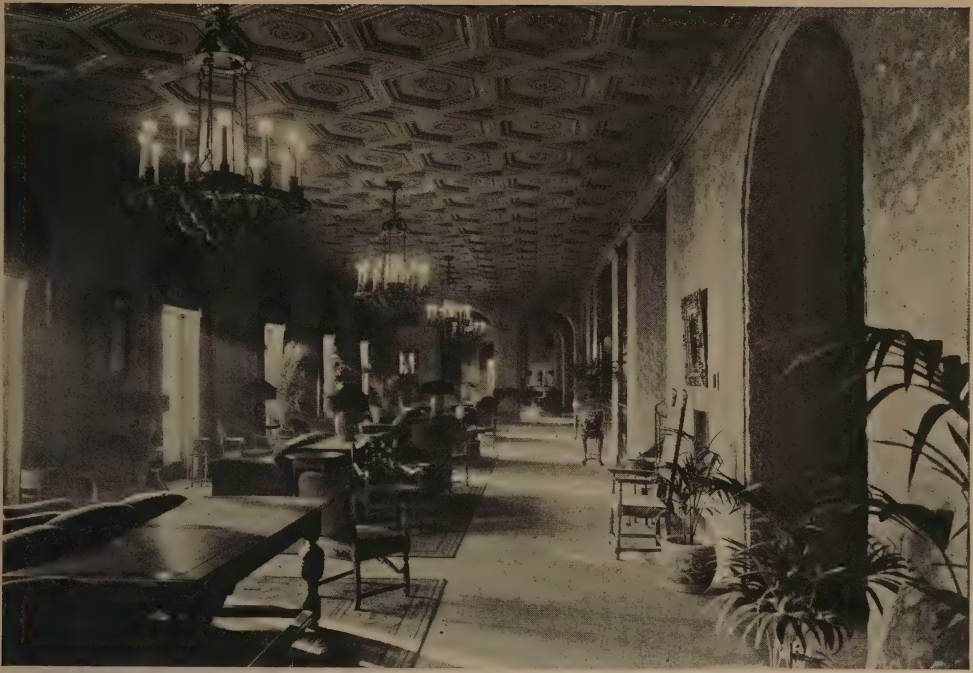
Entrance Detail
CORONADO HOTEL, ST. LOUIS, MISSOURI
Preston J. Bradshaw, Architect



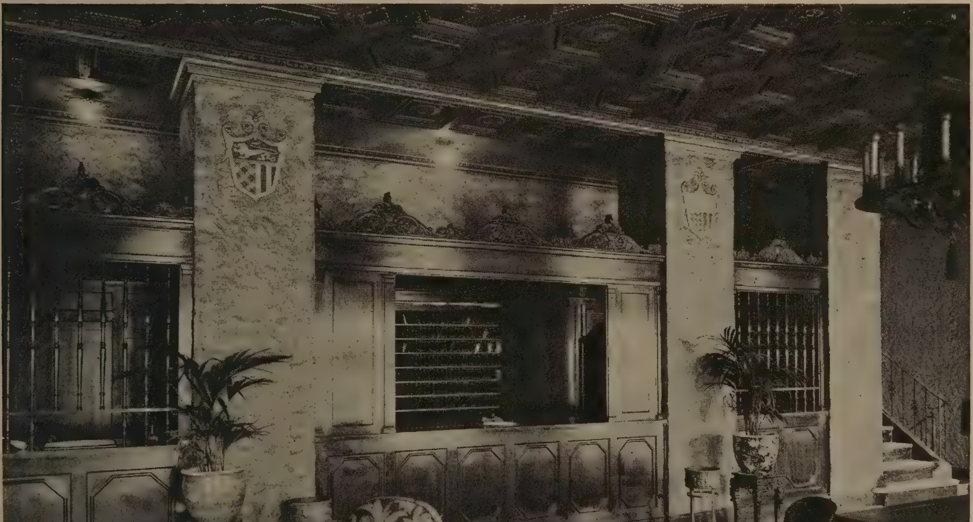
The Foyer



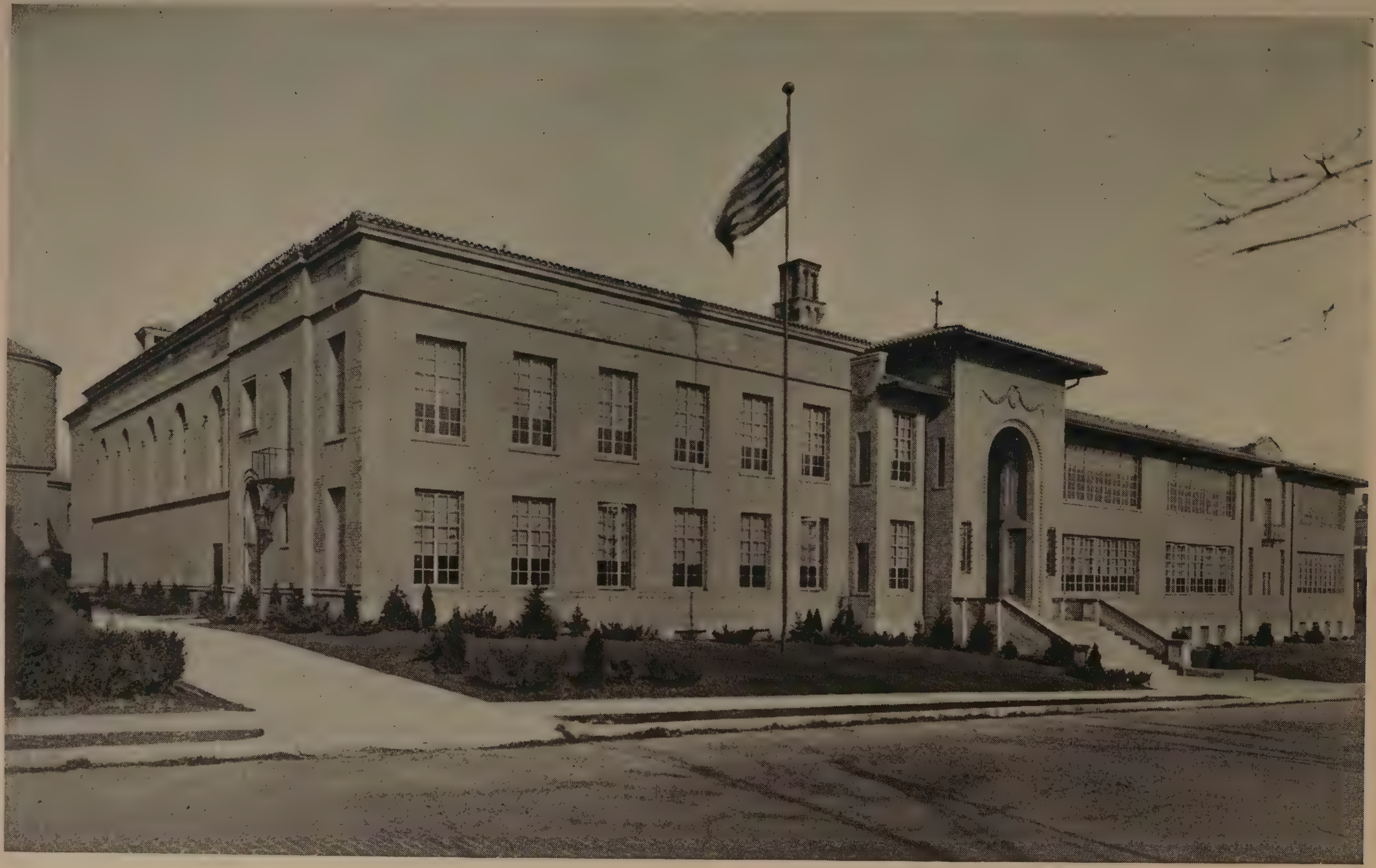
Lounge Looking Toward Foyer
CORONADO HOTEL, ST. LOUIS, MISSOURI
Preston J. Bradshaw, Architect



The Lobby

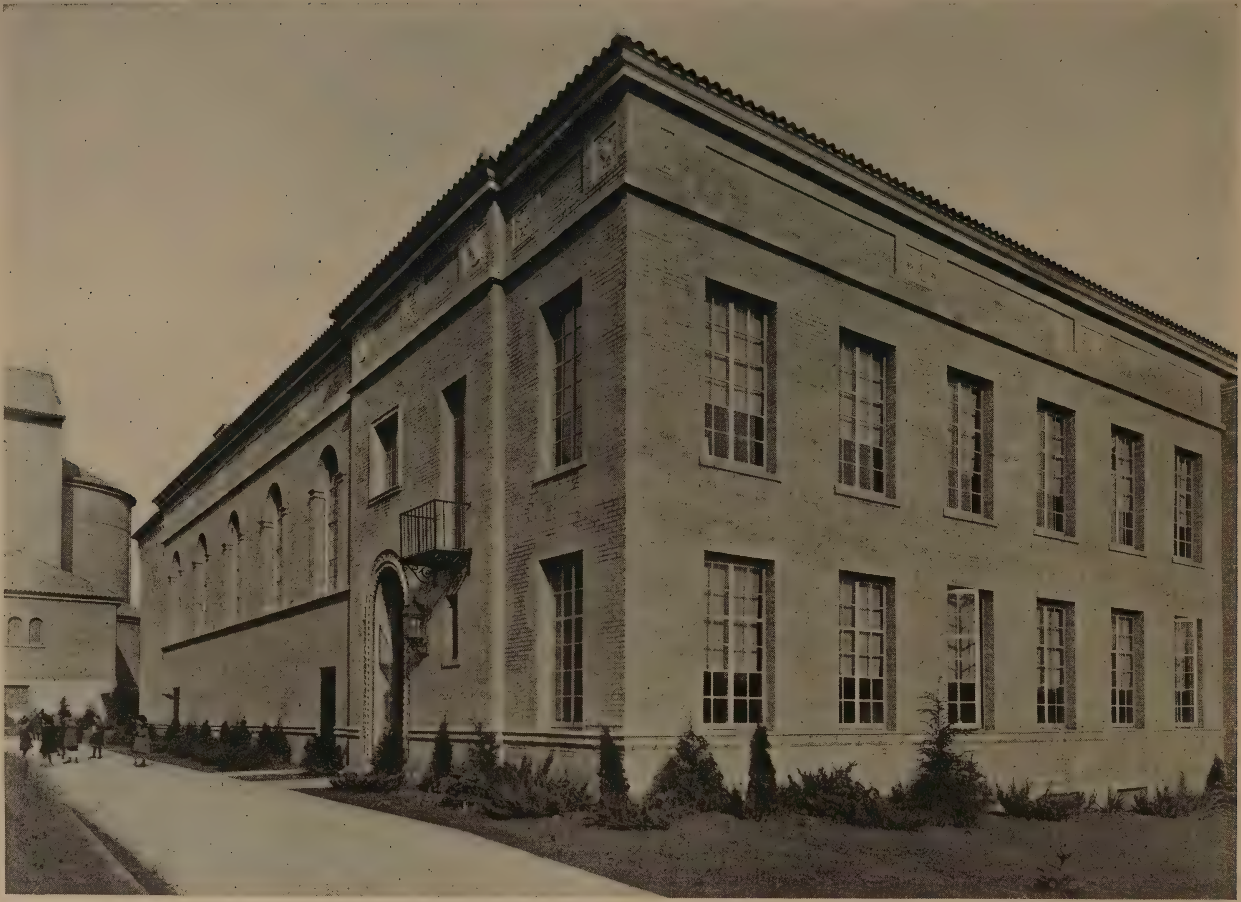


The Lobby
CORONADO HOTEL, ST. LOUIS, MISSOURI
Preston J. Bradshaw, Architect



Façade

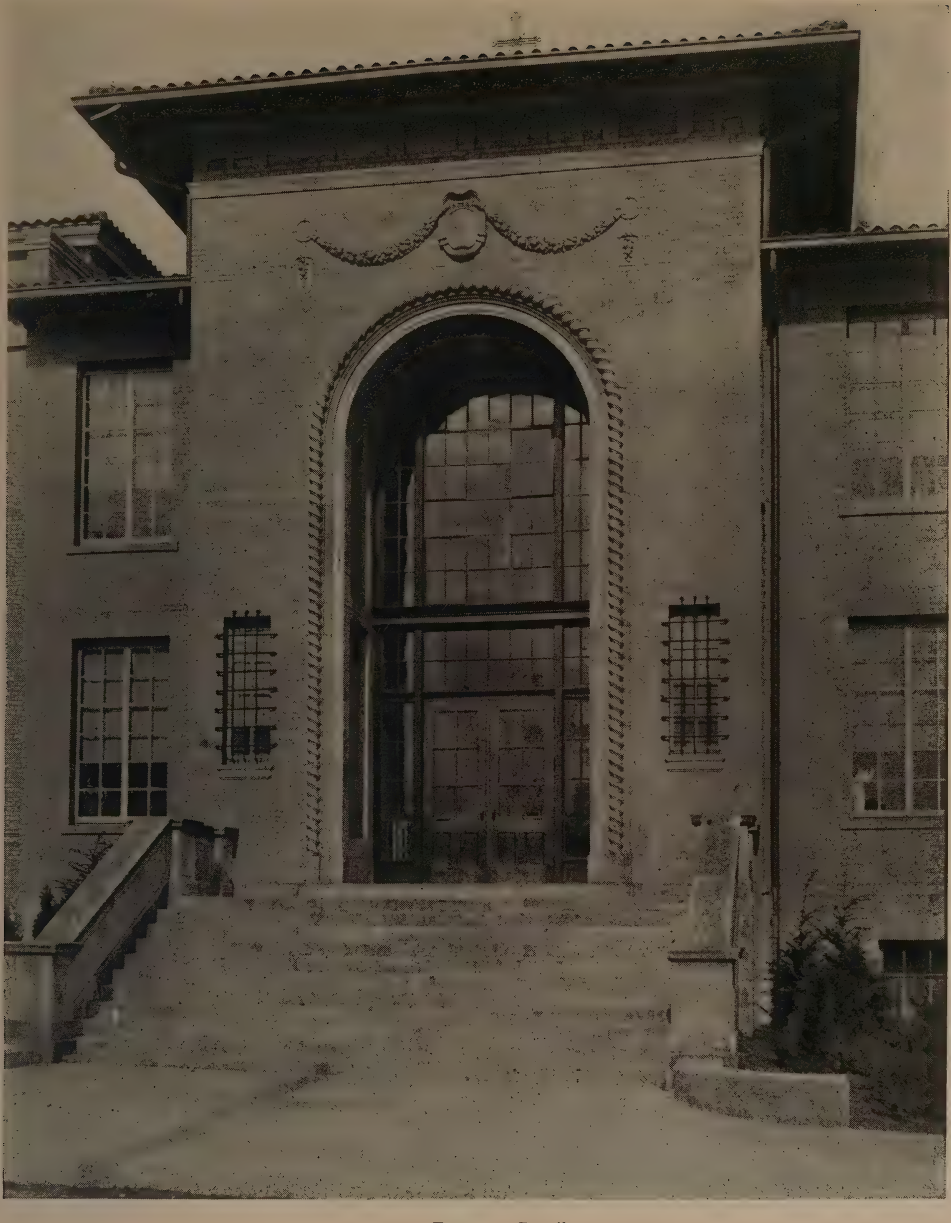
ST. MARK'S PAROCHIAL SCHOOL, EVANSTON, ILLINOIS
Joseph Steinkamp & Brother, Architects



Front and Side Views

ST. MARK'S PAROCHIAL SCHOOL, EVANSTON, ILLINOIS

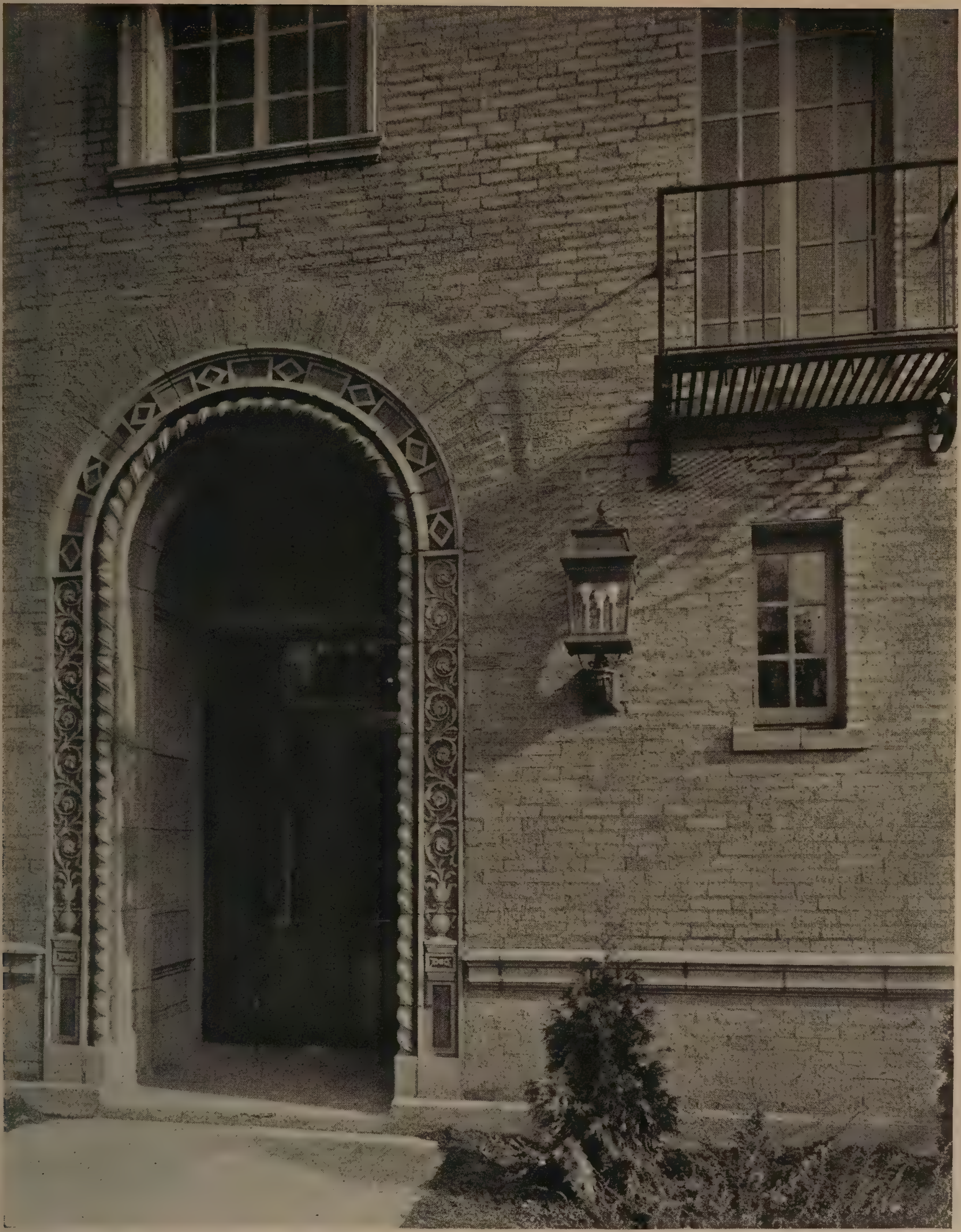
Joseph Steinkamp & Brother, Architects



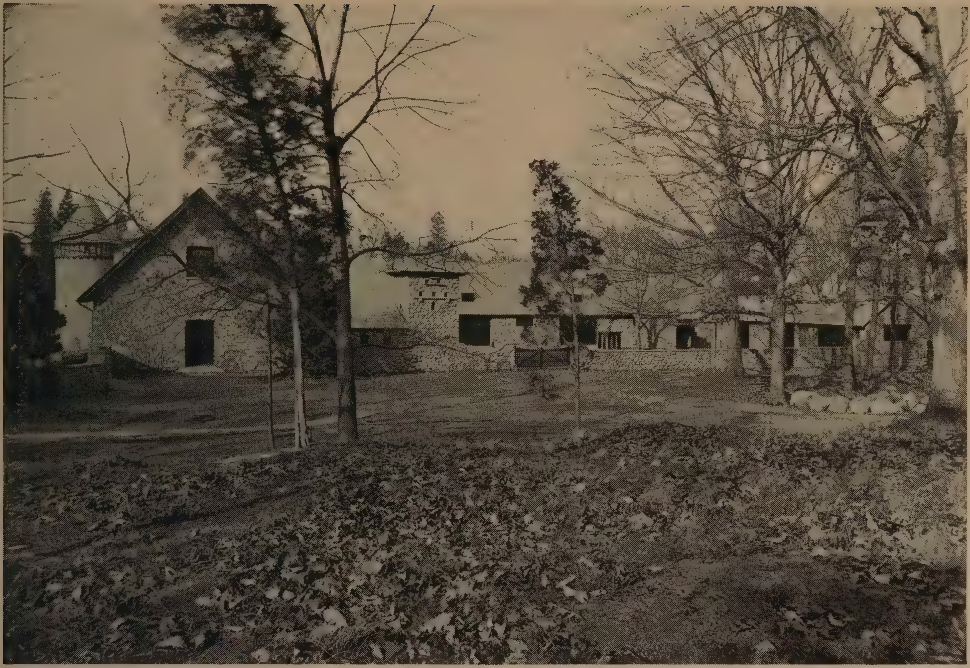
Entrance Detail

ST. MARK'S PAROCHIAL SCHOOL, EVANSTON, ILLINOIS

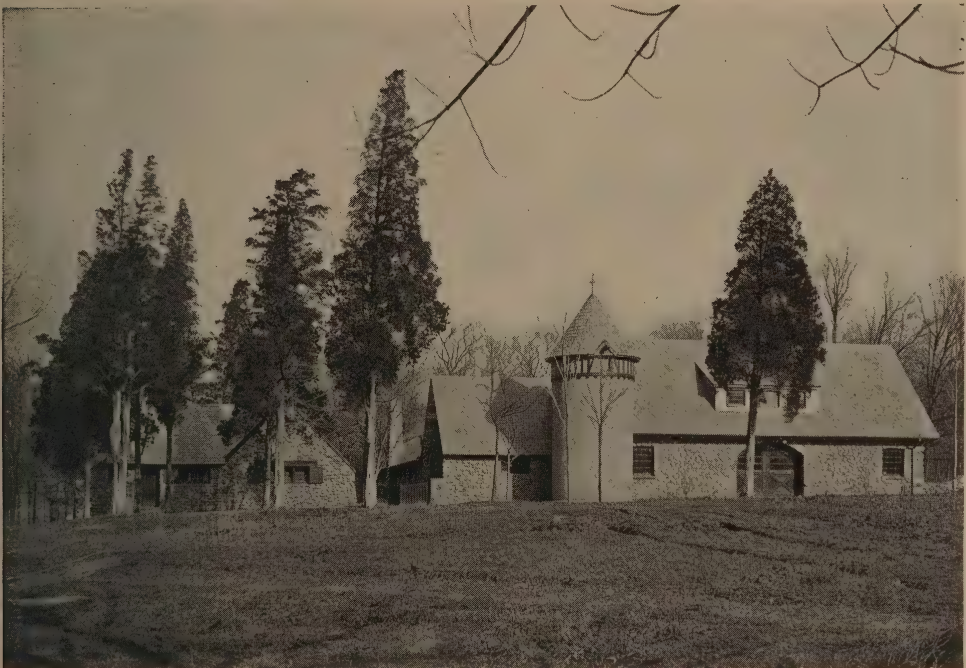
Joseph Steinkamp & Brother, Architects



Side Entrance Detail
ST. MARK'S PAROCHIAL SCHOOL, EVANSTON, ILLINOIS
Joseph Steinkamp & Brother, Architects



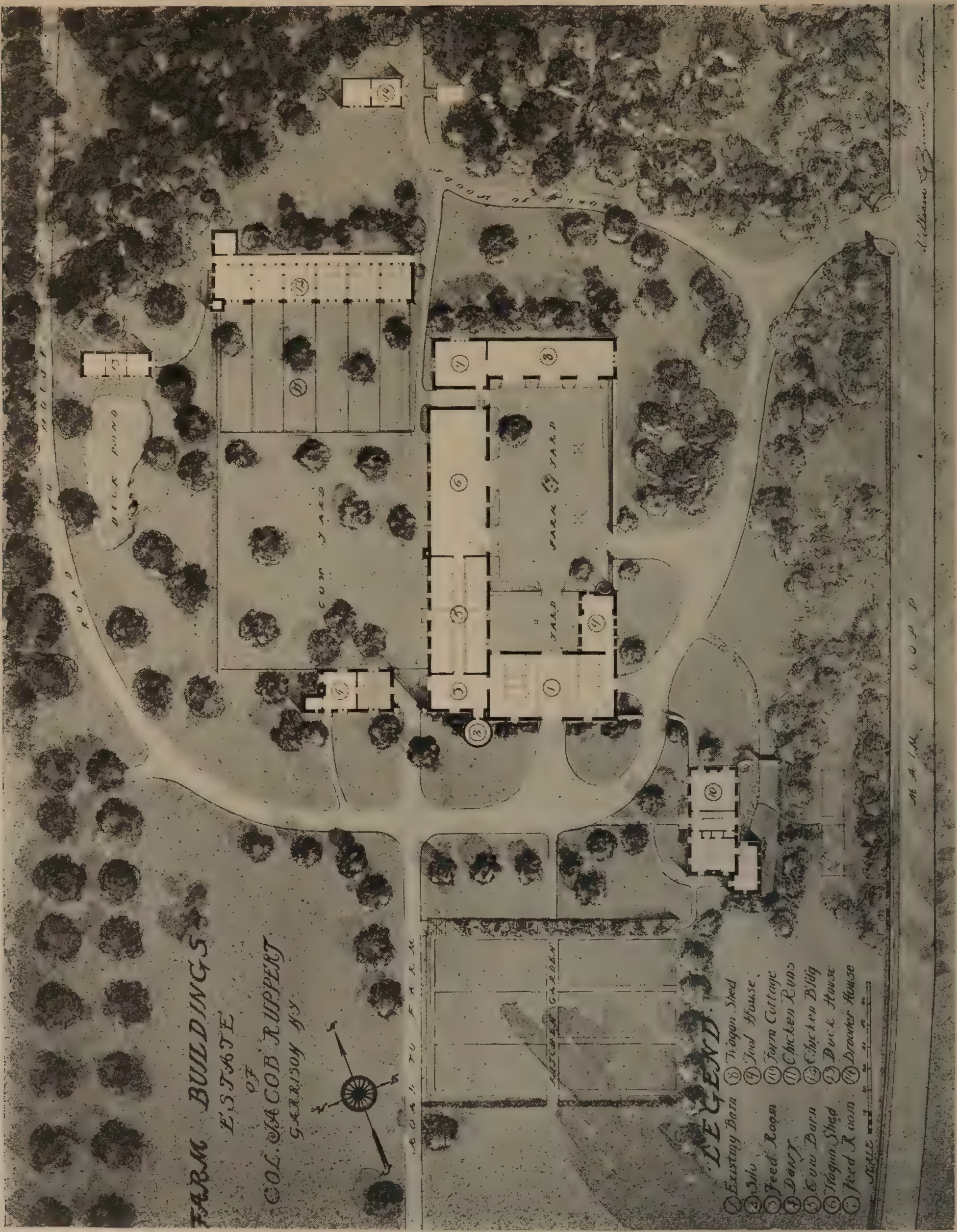
Rear View



View From Road

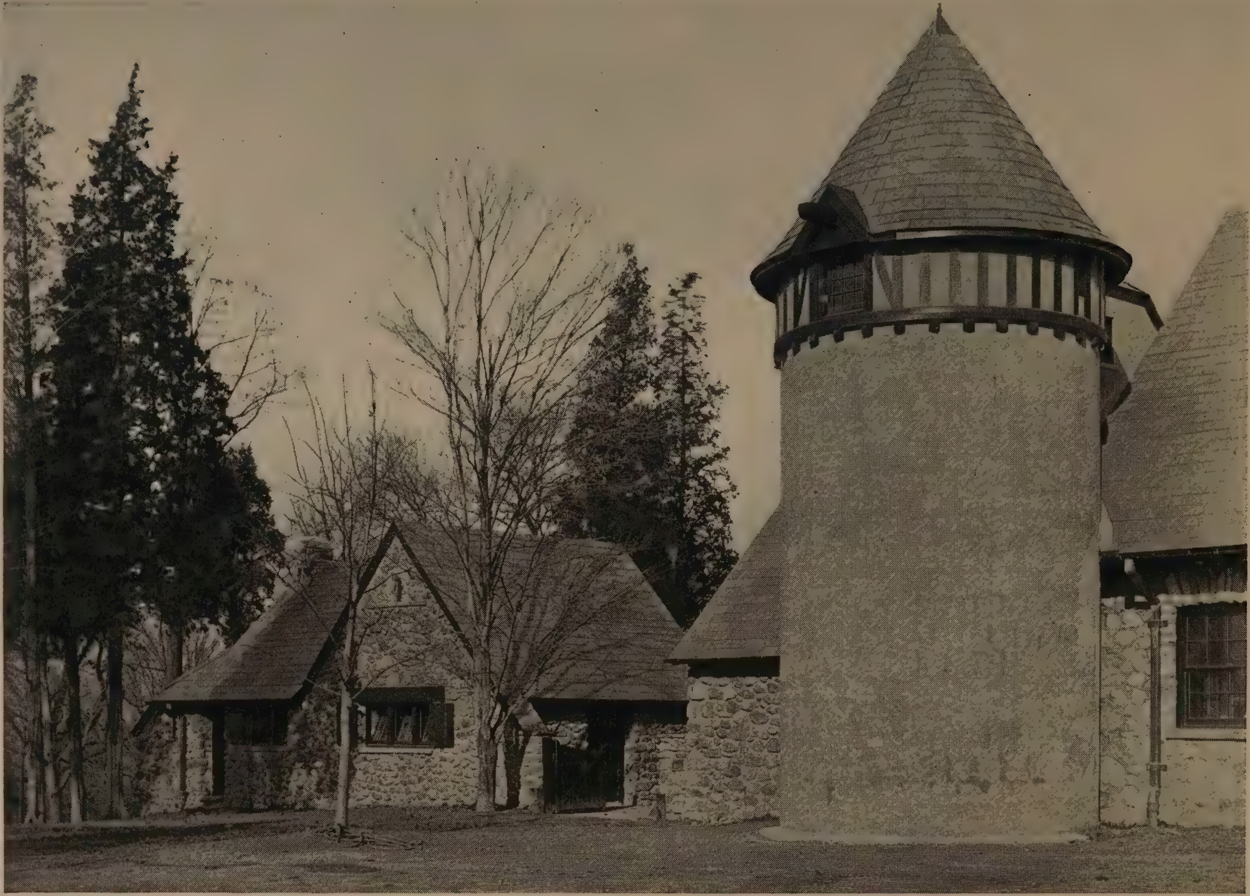
FARM BUILDINGS ON JACOB RUPPERT FARM, GARRISON, NEW YORK

William La Zinsk, Architect



General Layout

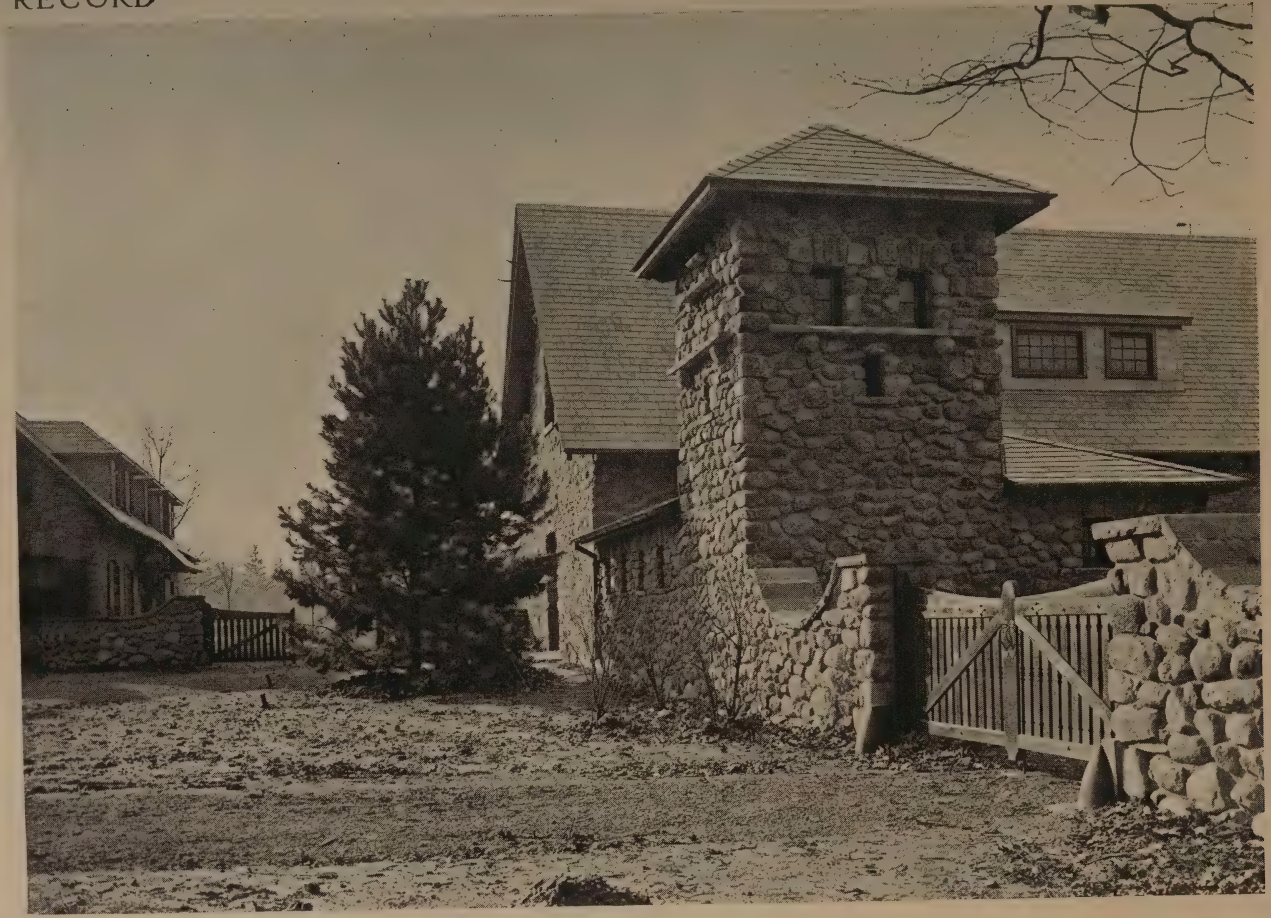
FARM BUILDINGS ON JACOB RUPPERT FARM, GARRISON, NEW YORK
William La Zinsk, Architect



Silo and Dairy Building

FARM BUILDINGS ON JACOB RUPPERT FARM, GARRISON, NEW YORK

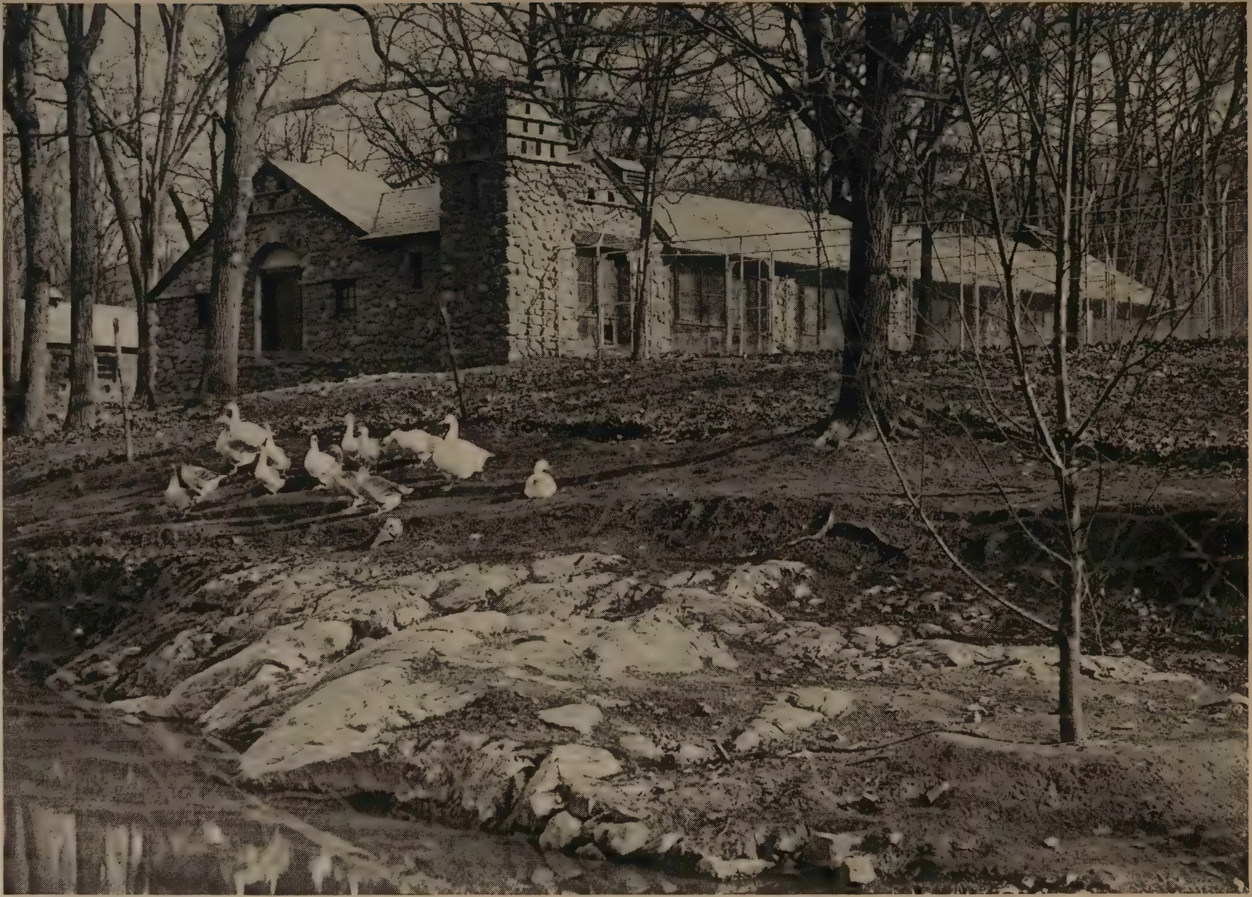
William La Zinsk, Architect



Tower and Barn

FARM BUILDINGS ON JACOB RUPPERT FARM, GARRISON, NEW YORK

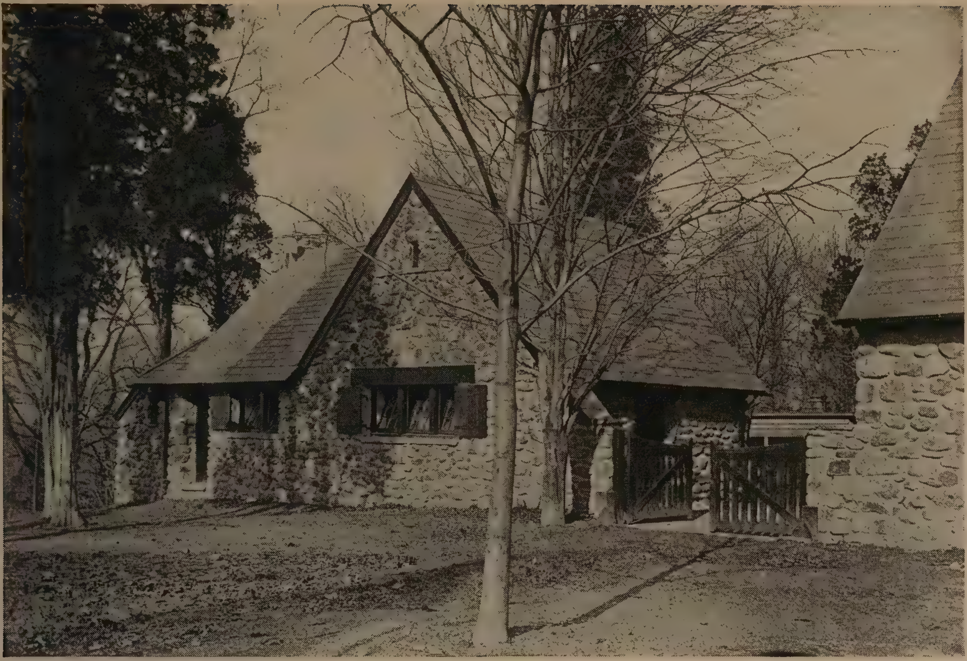
William La Zinsk, Architect



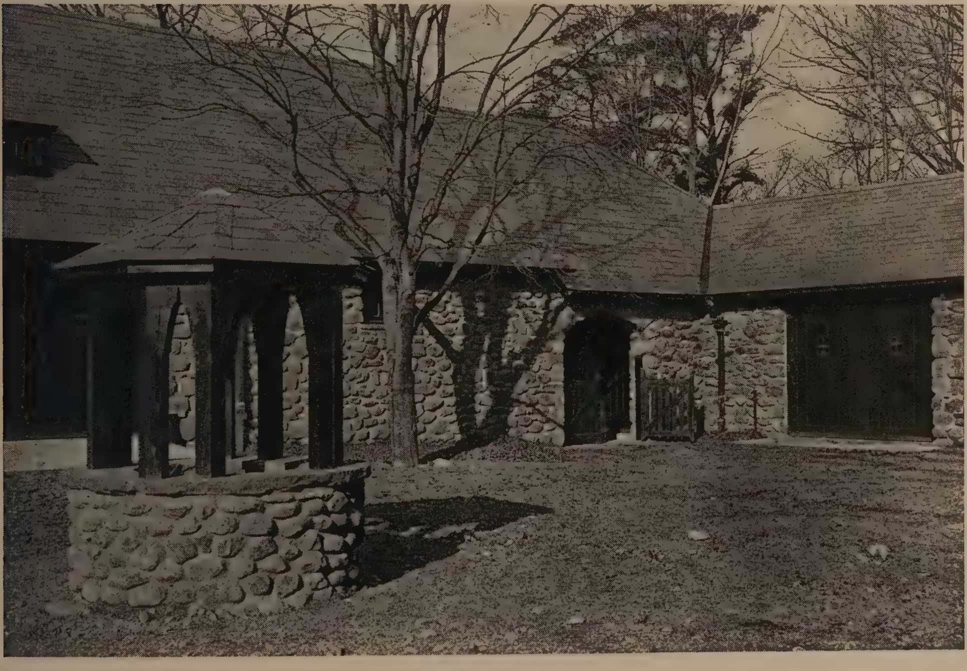
Poultry Building and Duck Pond

FARM BUILDINGS ON JACOB RUPPERT FARM, GARRISON, NEW YORK

William La Zinsk, Architect

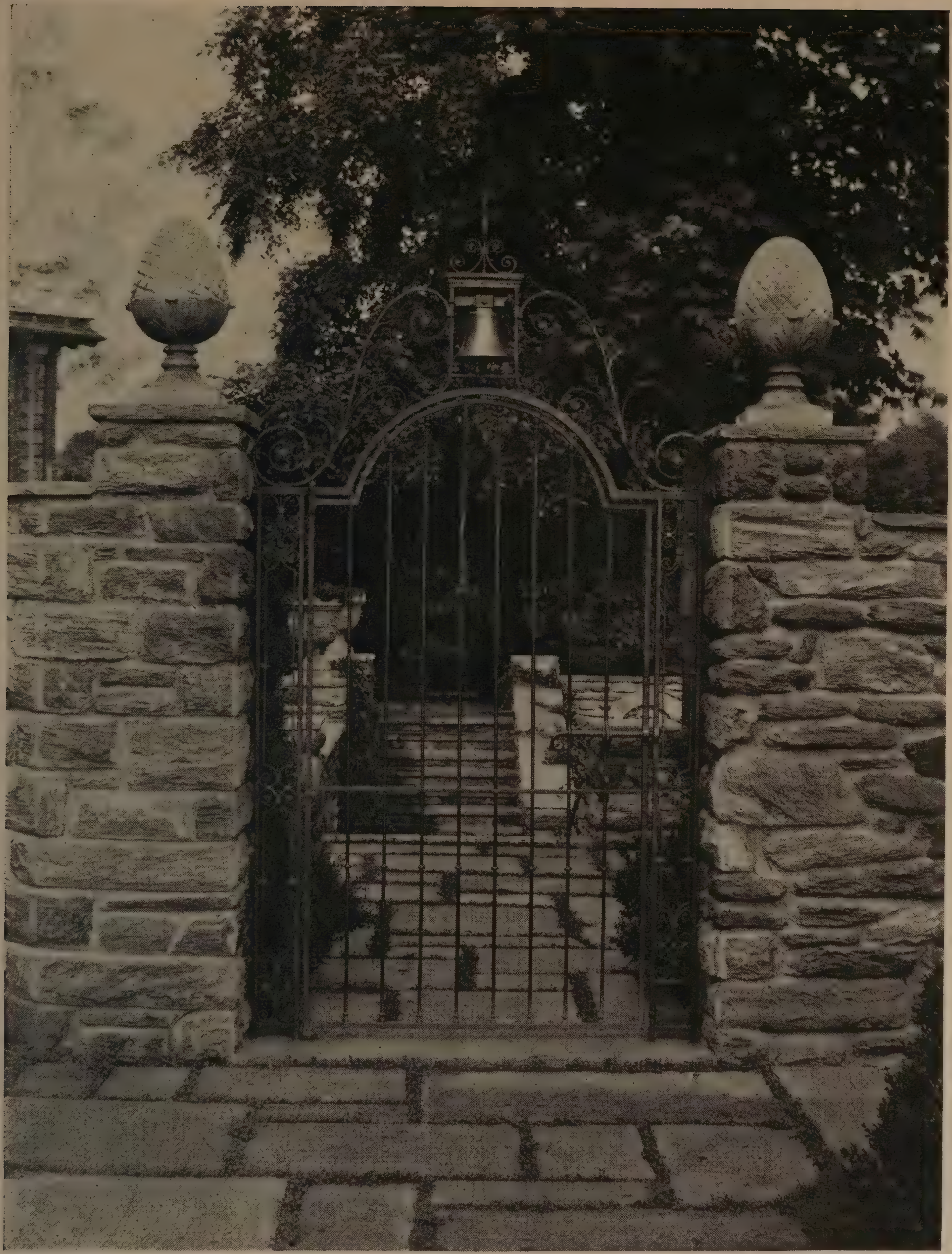


Dairy Building



Well in Yard

FARM BUILDINGS ON JACOB RUPPERT FARM, GARRISON, NEW YORK
William La Zinsk, Architect



Gate Into Lower Garden

ESTATE OF S. F. HOUSTON, ESQ., ST. MARTINS, PHILADELPHIA, PA.

Robert R. McGoodwin, Architect

ANDALUSIAN GARDENS AND PATIOS

By

Mildred Stapley and Arthur Byne

Photographs and Drawings made expressly by the Authors

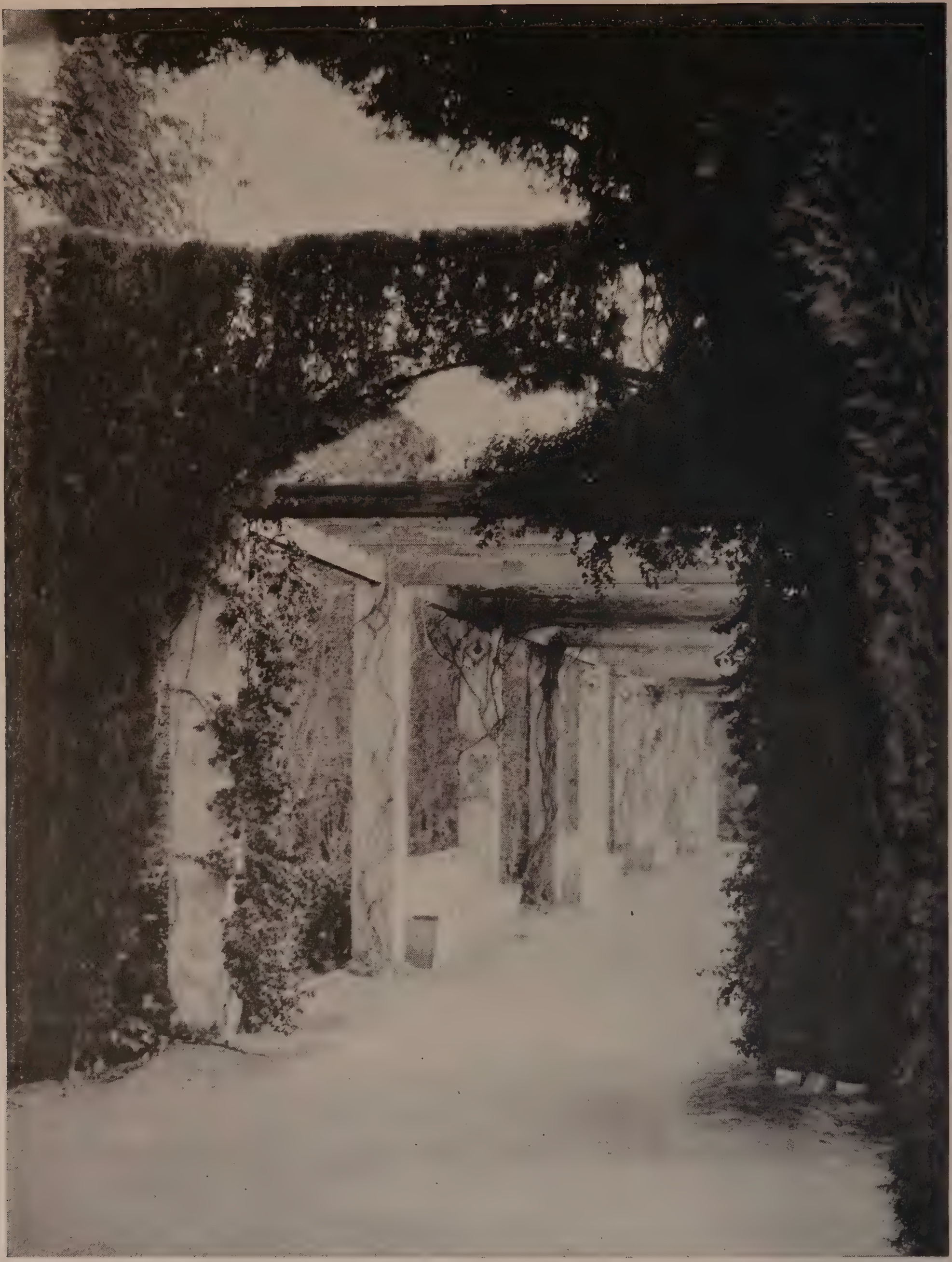
PART X. PATIOS AND GARDENS OF SEVILLE AND CORDOVA

THE modern *Parque de Maria Luisa* has recently been prepared for the *mise-en-scène* of the Spanish-American Exposition. The whole extensive area known by this name was once the garden of the Duc de Montpensier, brother-in-law to Isabel II, and surrounded the great Baroque palace of Santelmo. Towards the end of the last century his widow, Maria Luisa, presented the palace and the grounds nearest to it to the Archbishopric of Seville, and the remoter and larger portion of her nondescript park to the public. This was known as the Park of Maria Luisa. When Seville decided to arrange a Spanish-American Exposition the upper part of this park was chosen as the site. Building and garden-making were at once begun, but the Great War appears to have deferred indefinitely the opening of the exposition. All the preparations are in true Andalusian character; and if one feels that the buildings are perhaps too intensely regional, not so the gardens.

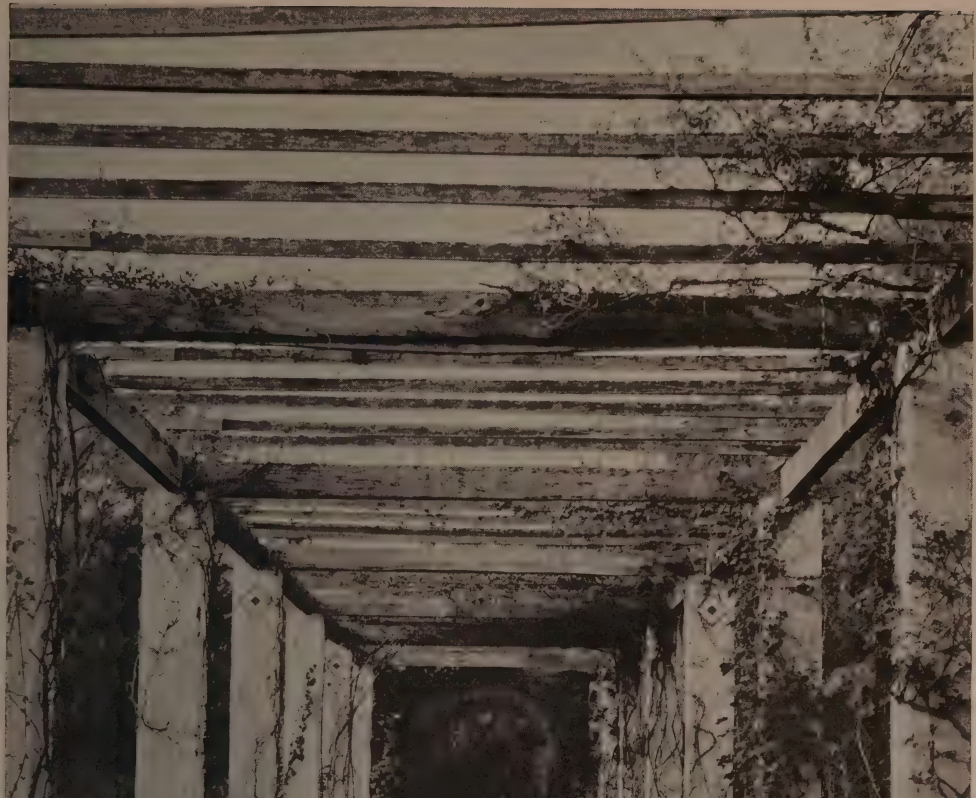
In these a Frenchman, M. Forrestier, collaborated. The same expert is now busy metamorphosing the once barren side of the Montjuich, Barcelona, into a public garden of great distinction. This problem at Seville was to lay out in the Andalusian manner an area vaster than any existing prototype; also to make it public in character and provide it with long drives and esplanades; yet to more or less conform to the previous layout, thus avoiding the expense of unmaking the old before starting the new. The solution is most creditable. The designers have given Seville what it never possessed before—a truly Andalusian public garden, enjoyed by all classes (who here know how to be happy in a park without bandstands, merry-go-rounds, cages of unfortunate wild beasts, soda-water fountains, and other embellishments which in certain countries are considered indispensable to mass recreation).

Although the Andalusian garden is usually without architectural features, one such indulgence—the pergola—was permitted here. Used sparingly, without orders, it is merely a succession of square pillars surmounted by equally simple wooden beams. In every alternate bay are stucco benches, and their edging of green tiles and the lozenge-shape tile insert in each face of the pillar are the only decoration. The vines at the base of the uprights are interestingly confined in a trefoil formed by three common roof tiles imbedded vertically. Another departure from precedent is the large *estanque*, perfectly rectangular and with an island of the same shape in the center. Both borders of the water are accentuated by a stout brick coping, that of the island holding an unbroken row, hundreds and hundreds, of potted plants. The surface of the water is covered with lilies and frogbit. While this pool is larger than any other in Andalusia there is no doubt that it was suggested by the little water garden, or Court of the Cypresses, at the Generalife, whose rectangular simplicity and rows of flower pots it repeats.

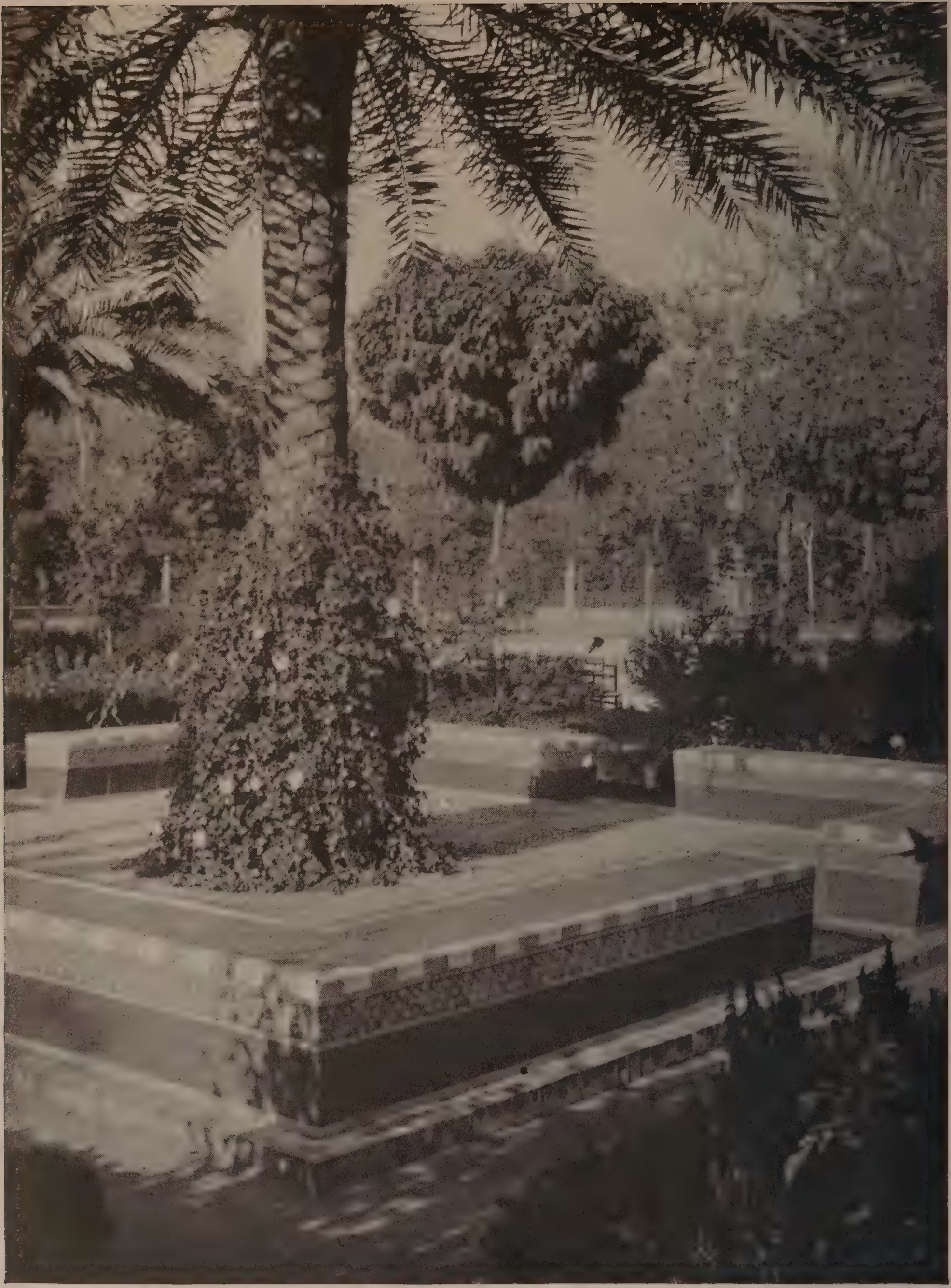
The tile fountains in the park are for the most part well designed, low and broad; (as much cannot be said for the marble Fountain of the Lions—poorly



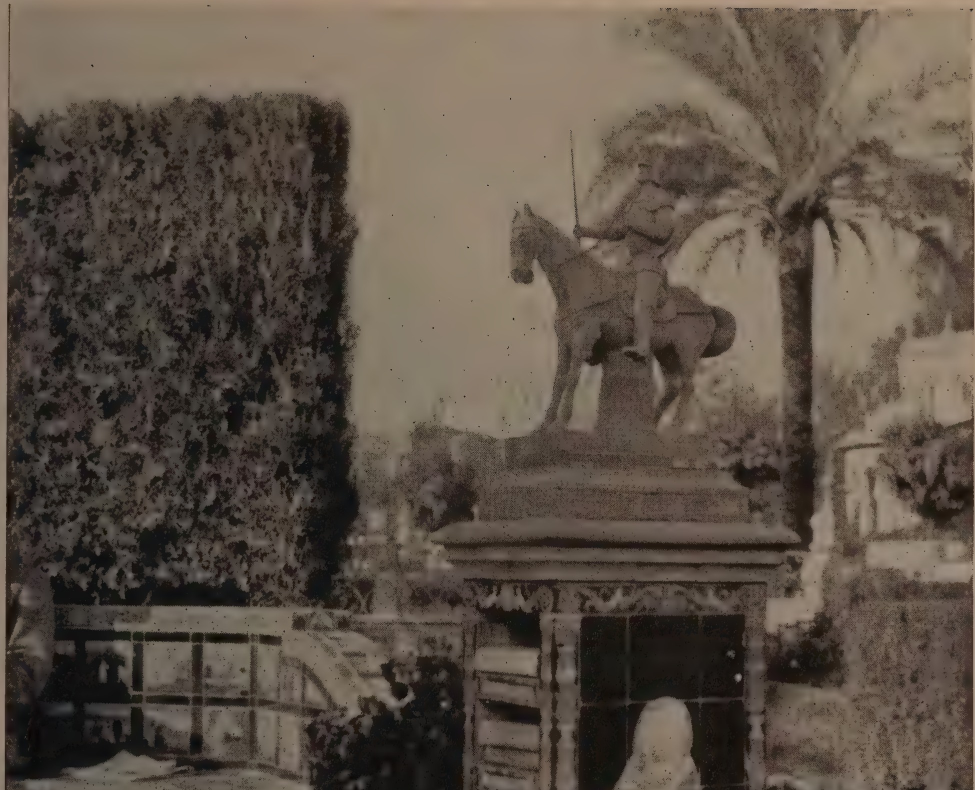
Cypress arch leading to the stucco pergola
MARIA LUISA PARK, SEVILLE



Pergola in white stucco with green tile insets
MARIA LUISA PARK, SEVILLE

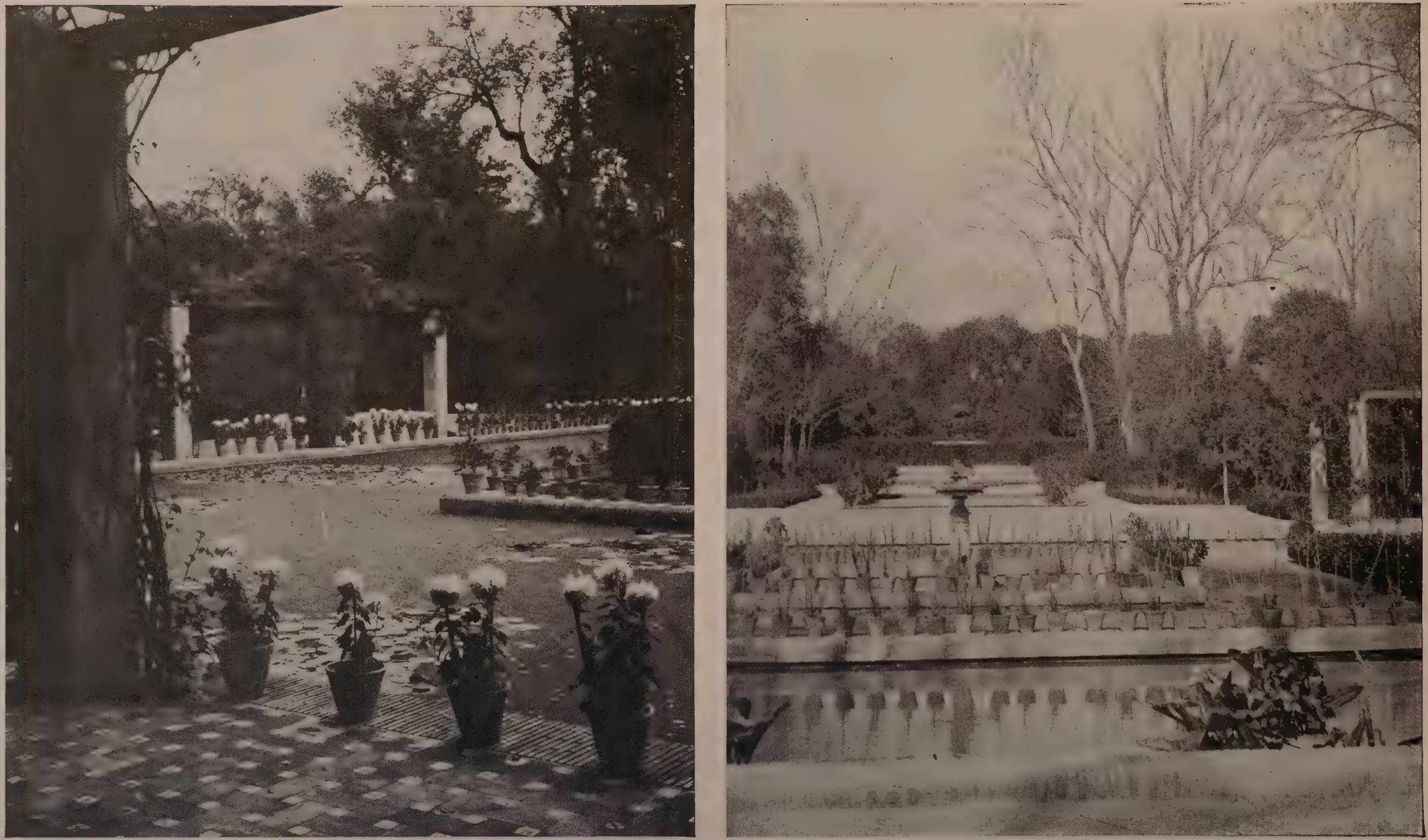


Quadrangle defined by a colored tile seat
MARIA LUISA PARK, SEVILLE



Outdoor reading room dedicated to the celebrated novelist, Cervantes, and executed in colored tiles which illustrate the history of Don Quixote

MARIA LUISA PARK, SEVILLE



Summer and winter view of lily pond and island. The curbs made of molded brick
MARIA LUISA PARK, SEVILLE

Stucco detail in Maria Luisa Park

carved, and the beast too realistic). Some of the polychromy is too garish, but in this matter it is probable that the over enthusiastic tile manufacturers of Triana had their say. A tile innovation that attracts, and justly, much attention is the outdoor reading room. Not so much for its design, which happens to be excellent, but for its purpose. An exedra to the memory of Cervantes, who spent weary months in a Sevillian prison, it tells the adventures of his fantastic hero, Don Quixote, in a fine series of burnt clay pictures, while at each side of the seat is a tile book stand where repose vellum-covered volumes of the great novelist. These for the mental refreshment of the loiterer; and not chained like the old-fashioned park tin cup, but at the disposition of all —richman, poorman, beggarman, even thief. This charming and respected corner makes our own park nooks, all too often bestrewn with hideous comic picture supplements and the other debris of "nature lovers," exceedingly sad by contrast.

Worth a line or two before leaving the Parque de Maria Luisa is the picturesque uniform of the guardians—the traditional dress of the Spanish game-keeper, brown with green facings and leather accessories. The tasseled leggings buttoned only at the ankle and the top particularly engaged the attention of Théophile Gautier, likewise the broad-brimmed hat with green cockade. Something about the nicety of design and emphasis of small items makes this uniform specially appropriate to the Sevillian "park police."

Rear door and window
opening on an abandoned garden

El Jardin de Murillo

Another but very small public garden has recently been made, called the Murillo Garden. On this site the idolized Sevillian painter is suposed to have lived; certain it is that he was buried in the church of Santa Cruz, now demolished, which stood nearby. A few attractive box-bound flower beds, good tile fountains and seats, make up the typical composition.

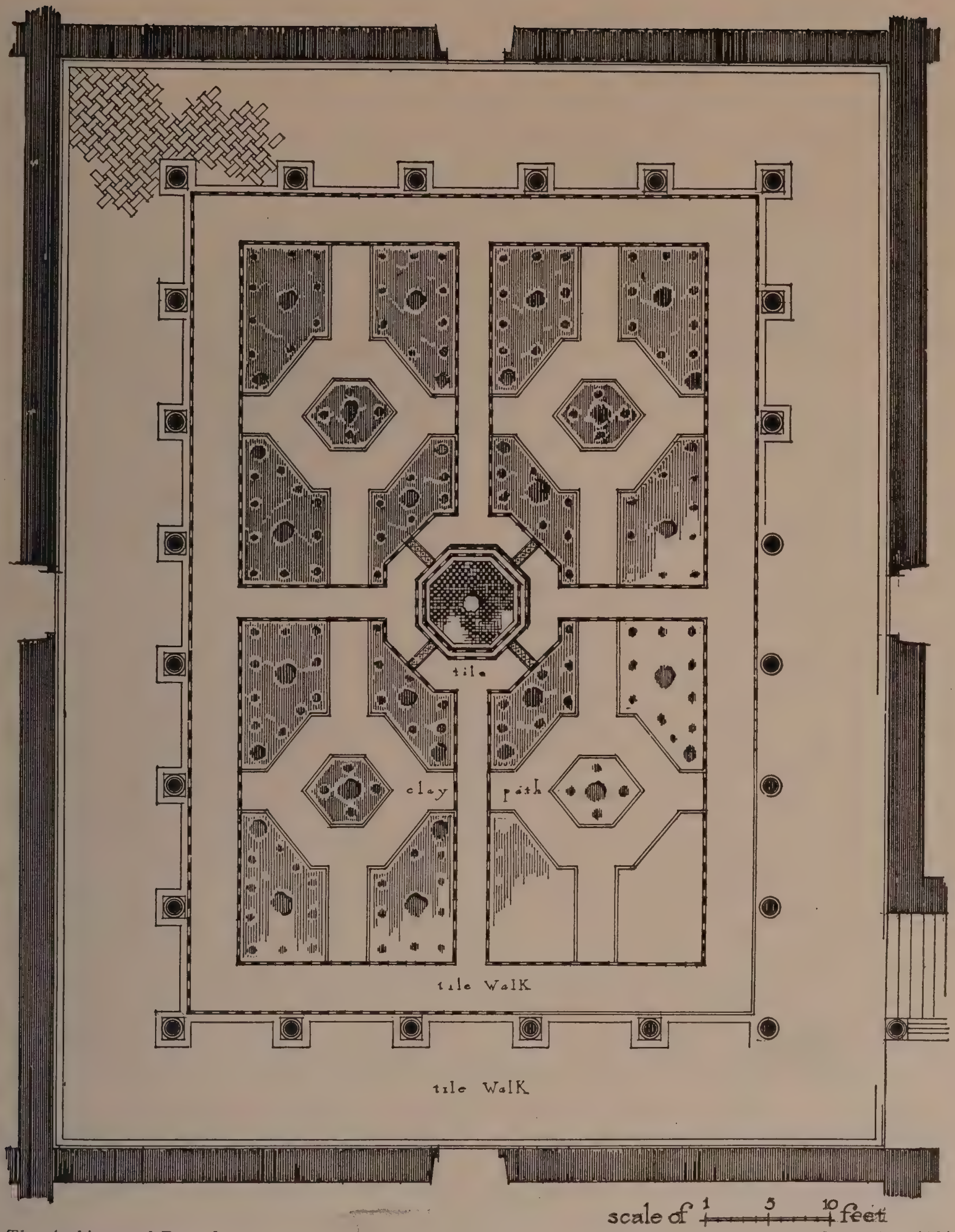
The most notable item is the caretaker's lodge, a nice bit of design in the spirit of the modern revival, carried out in white stucco, and adorned by fine iron window rejas. Potted plants, the reserve supply for the garden, are set about with great prodigality. Those who enjoy looking into small details will be interested in the iron rings in the façade and again at each side of the rejas for holding flower pots. These can also be seen on many an Andalusian balcony.

El Museo Provincial

A small garden carried to a high degree of finish, and beautiful in the special way that certain highly finished old paintings are beautiful, is that of the *Museo Provincial de Bellas Artes.* Until the Disestablishment of the Monasteries (1835) this was the *Convento de la Merced,* and the garden referred to is in the southernmost of its two large cloisters. In design it is probably what it was when the cowled inmates laid it out, but its freshening-up is due to the modern renaissance of garden craft in Seville. Now it is a study in blue and white tiles, yellow earth paths, and dark green shrubs; all placed with consummate precision and admirably kept in order. As it is illustrated in color it is hardly necessary to point out that nothing could be simpler than the scheme—wide paths of yellow earth well tamped down, narrow bisecting paths, only two feet wide, of brick tile enlivened with color insets and edging of alternate blue and white blocks, two by eight inches; basin in blue and white checkers but reverting to green and white in the central font; yellow curbing to the yellow paths, as the juxtaposition of the blue and white blocks would have been a disturbing note. The planting is as conventional as the ceramic arrangement—low dense creepers carpet the plots, in which are set out two sizes of dwarf shrubs, one about eight inches high, the other about two feet; the contents of the alternate blue and white glazed pots which stand on the coping of the basin vary with the season, but red geraniums, carnations, and purple lilies appear most often, never two colors at the same time. Under the bright white arcade of this cloister runs a wainscot of polychrome tiles, and the walls are hung with old pictures of the Sevillian school. No detail has been overlooked, and the center of the quadrangle is like a highly polished and beautifully laid mosaic.

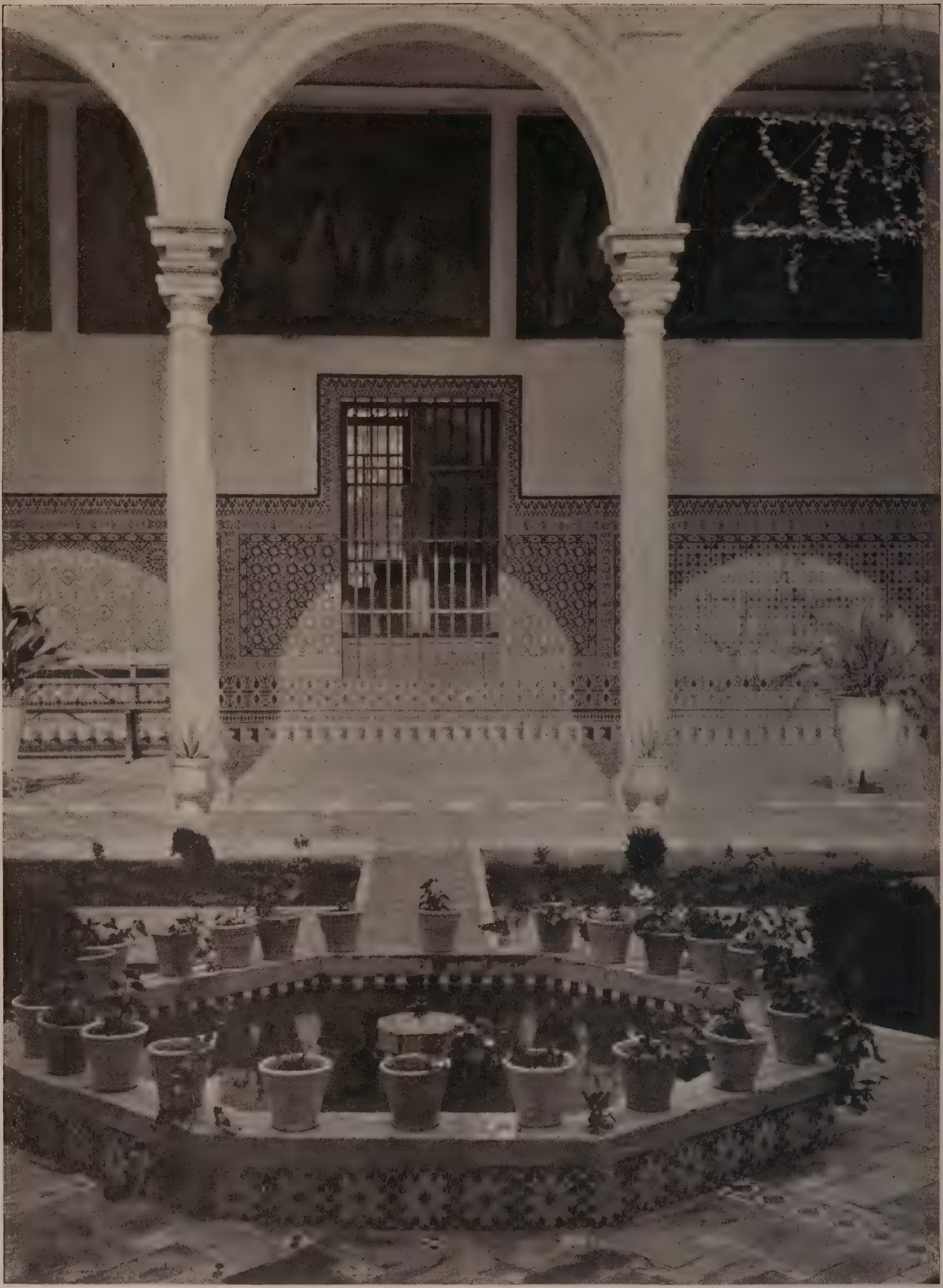
Number 8, Guzman el Bueno

As a specimen of the small city garden, and one more or less similar to many others in Seville, we illustrate that to the rear of the Osborne palace at No. 8, *Calle de Guzman el Bueno.* Portions of the house date from before the Christian reconquest, but the garden would not be anterior to the XVII century. It consists of two plots embraced on three sides by the house and its wings. One motif is square, the other oblong; between the two is a triple-arched marble screen with a delicate iron grille. For the rest the composition consists of polychrome tiles and dark green garden plots. Flowers, except those in pots, hardly enter into the scheme. In each enclosure is a tile fountain, and against the far wall—that separating the adjoining house—a tiled bench with tall panel behind. In the arcaded gallery that surrounds the garden stand fine old pieces of Spanish furniture and on the walls hang some excellent canvases by seventeenth-century masters, the contem-

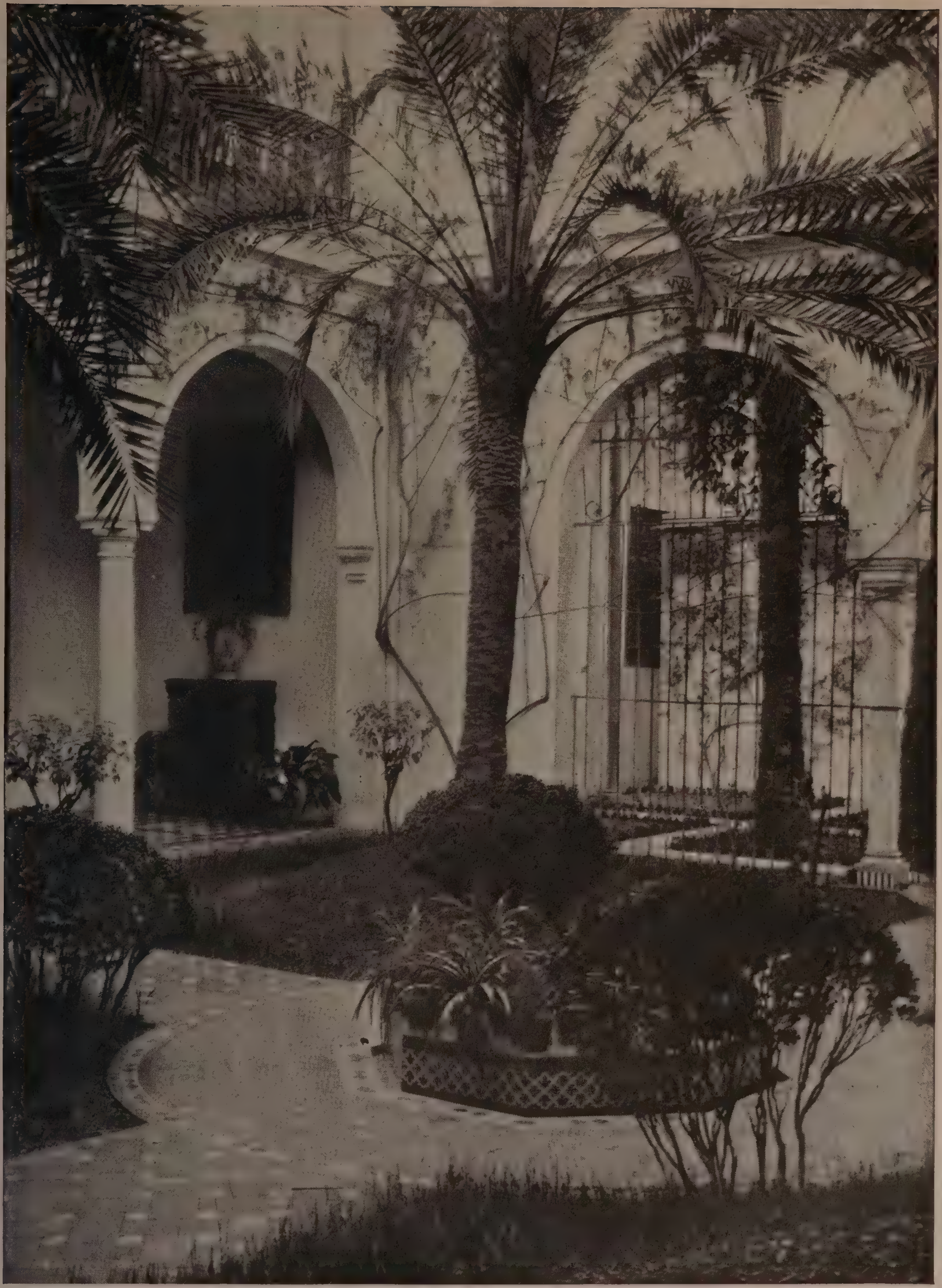


The Architectural Record *September,* 1924

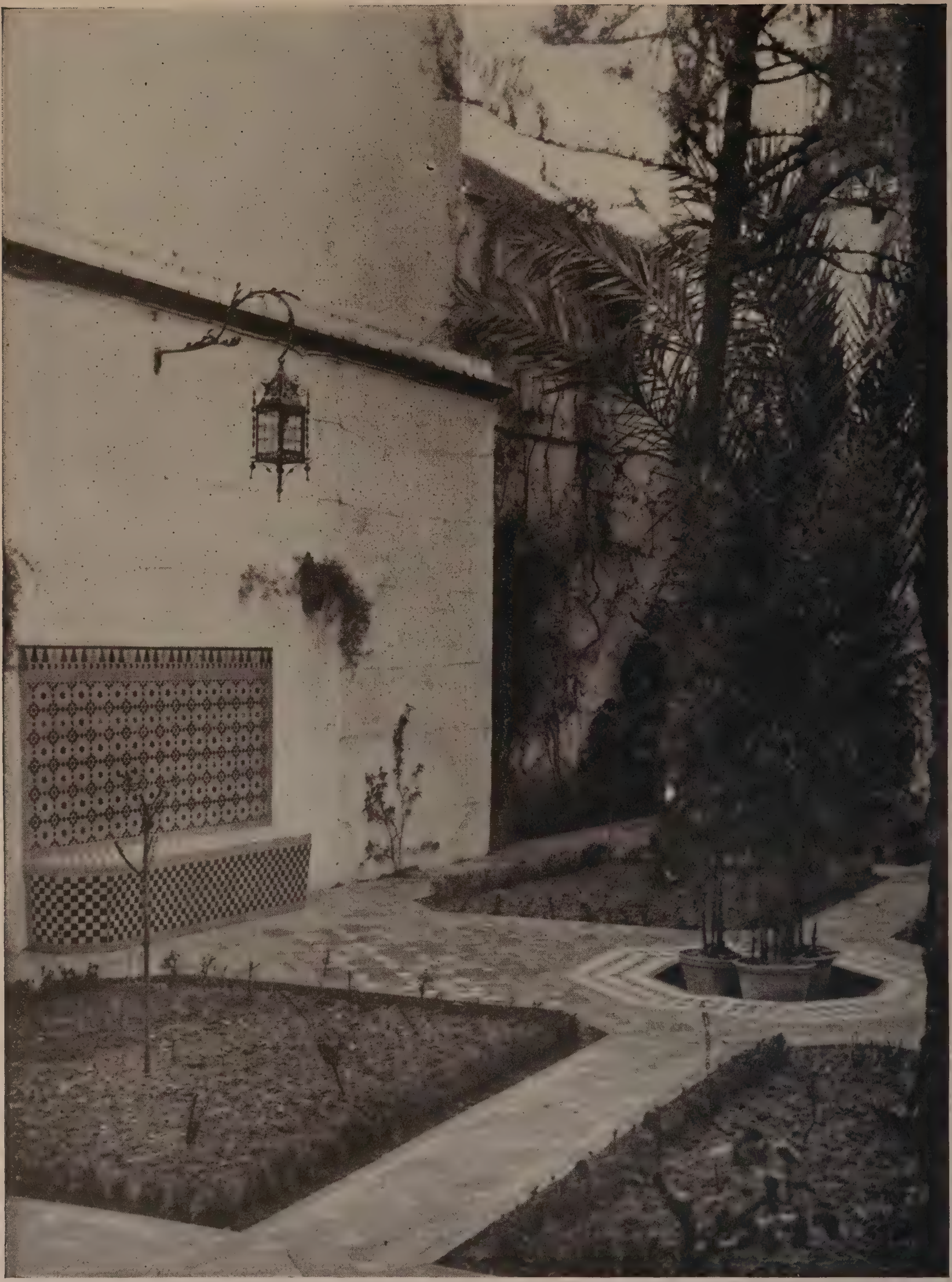
Plan of the tile garden
MUSEO PROVINCIAL, SEVILLE



Detail of the garden
MUSEO PROVINCIAL, SEVILLE



Loggia and garden
HOUSE IN THE CALLE DE GUZMAN EL BUENO, SEVILLE



Rear garden with seat of polychrome tiles built into the white walls
HOUSE IN THE CALLE DE GUZMAN EL BUENO, SEVILLE

poraries of Velazquez and Murillo. These help to give the garden that lived-in aspect which Sevillians may properly regard as their own special achievement.

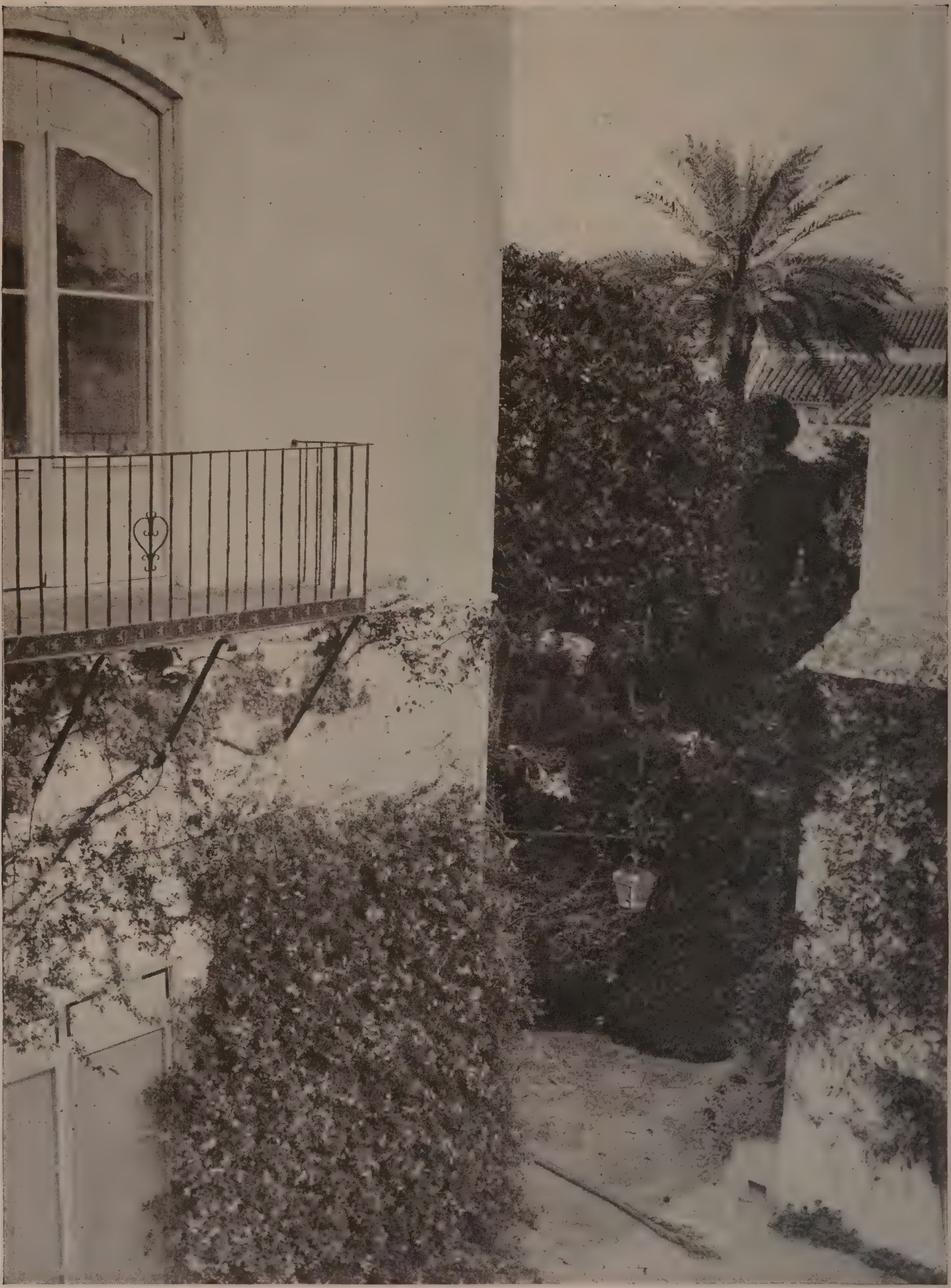
GARDEN OF THE MARQUES DE VIANA, CORDOVA

Our remaining small flat garden is found not in Seville, but in Cordova: *Calle de las Rejas de Don Gomez,* palace of His Excellency the Marques de Viana. The curious name of the street refers to a legend wherein the three large grilles of the Viana wall figure prominently. The palace dates from the sixteenth century, but the garden appears much more ancient. It probably represents a small fraction of one of the large Moorish gardens for which Cordova was celebrated in the eleventh century—places where exotic flowers and fruits from distant India grew in profusion, where water gushed over quicksilvered glass to glisten in the sun, where rare birds of brilliant plumage, invisibly netted, darted about. Hard to visualize in the decayed city of today! With the exception of the great Mosque, and this sadly tampered with by Christian zeal, scarcely a vestige of Moorish architecture remains; and as for palace gardens, we are reduced to the single small example illustrated.

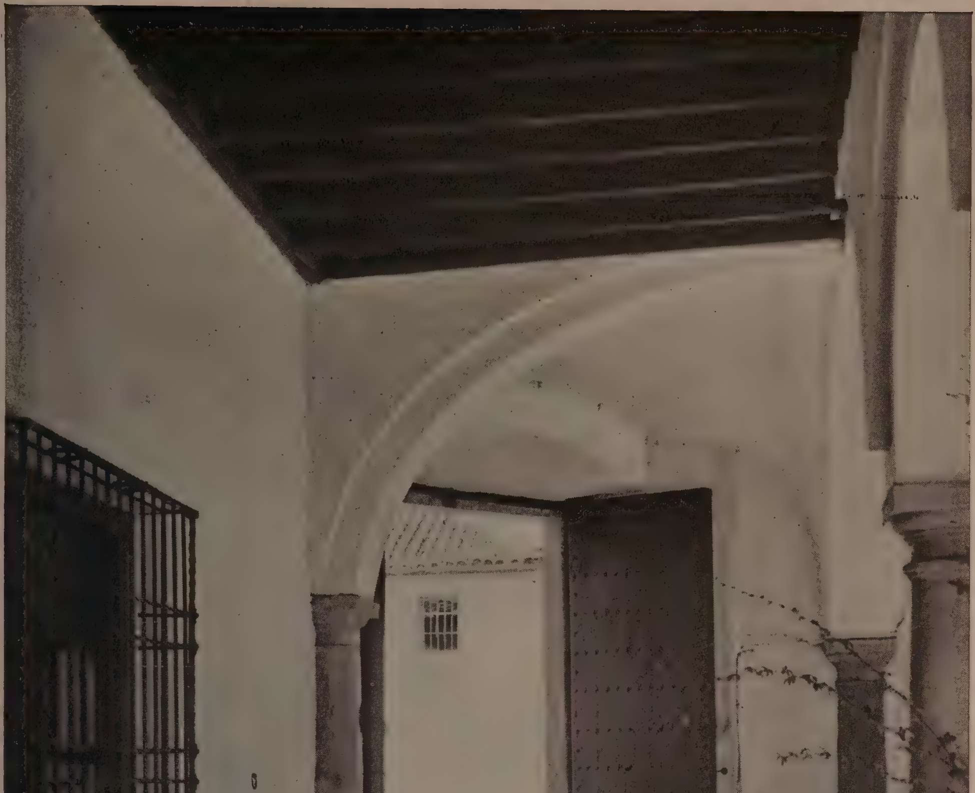
The Viana palace stands on the north part of the town, near the Convent of Santa Isabel. From the street one enters a spacious patio arcaded on all sides, the entrance being ingeniously arranged in a corner. At once the eye is confronted with an entirely new picture; no polychrome tiles but color supplied instead by bright yellow kalsomine. Stone columns of the arcade are thus painted, likewise string courses and cornices. The plants around the central fountain grow from glazed yellow pots. No other color enters into the scheme. Under the arcade is a beautifully laid walk of black and white river stones, and the open court is of coarse white gravel. Everything here is as orderly and as polished as a ship's deck.

To reach the garden one has to pass through the palace, a Moorish way of doing things which did not in the least disturb the Spaniards. As seen in plan it is arranged on the principle of a series of open air rooms, surrounded by lofty walls eighteen or twenty feet high, and the enclosures approximately forty feet square. The first, *de los Naranjos,* is set out with orange trees whose foliage is trained into a dense screen overhead; the black soil is carefully banked for irrigation with a not undecorative result. The second, *de las Rejas,* is devoted entirely to potted plants set about in groups on the brick pavement, and the only visible earth is that at the base of the walls where vines are planted. The third enclosure has a beautiful central group of cypresses trained in the form of a Gothic arcade and enclosing a marble fountain; off in each of the four corners is planted a huge semi-circular clump of box. Here, too, there is a simple brick pavement. Access from one enclosure to another is by means of wooden rejas painted with blue kalsomine and the walls are covered with bougainvillea, its deep green and bright purple most effective against the white. The white façade of the house itself is set off by ultramarine blue cornice and string course, while the woodwork, such as shutters and sash, is painted green. At the level of the *piso principal* and extending almost the entire length of the garden is an imposing iron balcony; this, too, is painted green except for the *repoussé* motifs of lions and castles, which are gilded. From this balcony one gets charming views of the garden in combination with the attractive roof-tops of the old town beyond.

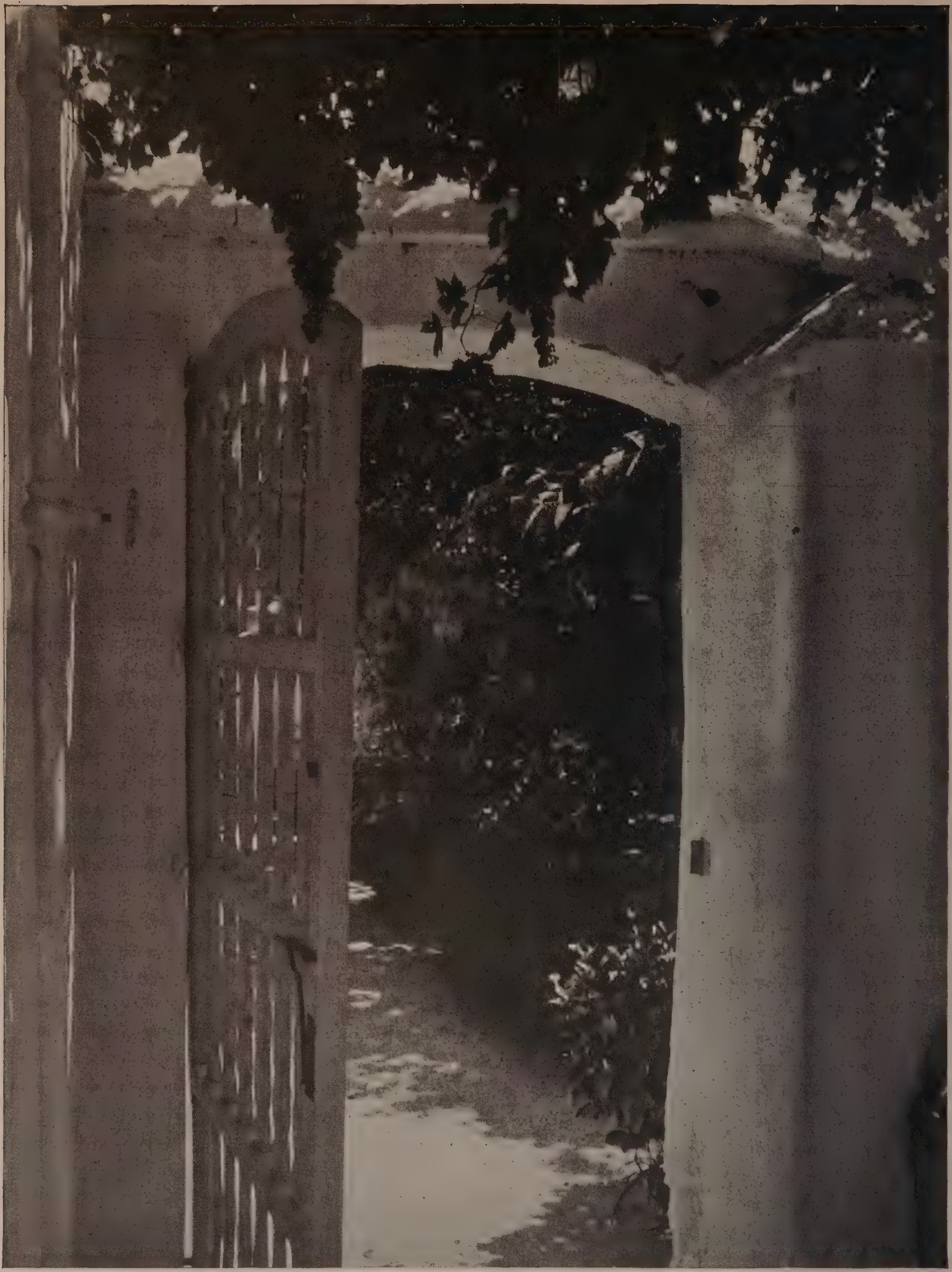
A visit to this garden in summer, and one readily appreciates the *raison d'être* of its walls. Except when the sun is on the meridian they are always casting a welcome shadow. Lofty though they are one never feels shut in, for besides the generous archways connecting one patio with another there are additional small openings in the form of recessed windows; also the three large ones overlooking the street and barred by the "Rejas de Don Gomez." It will be noted that



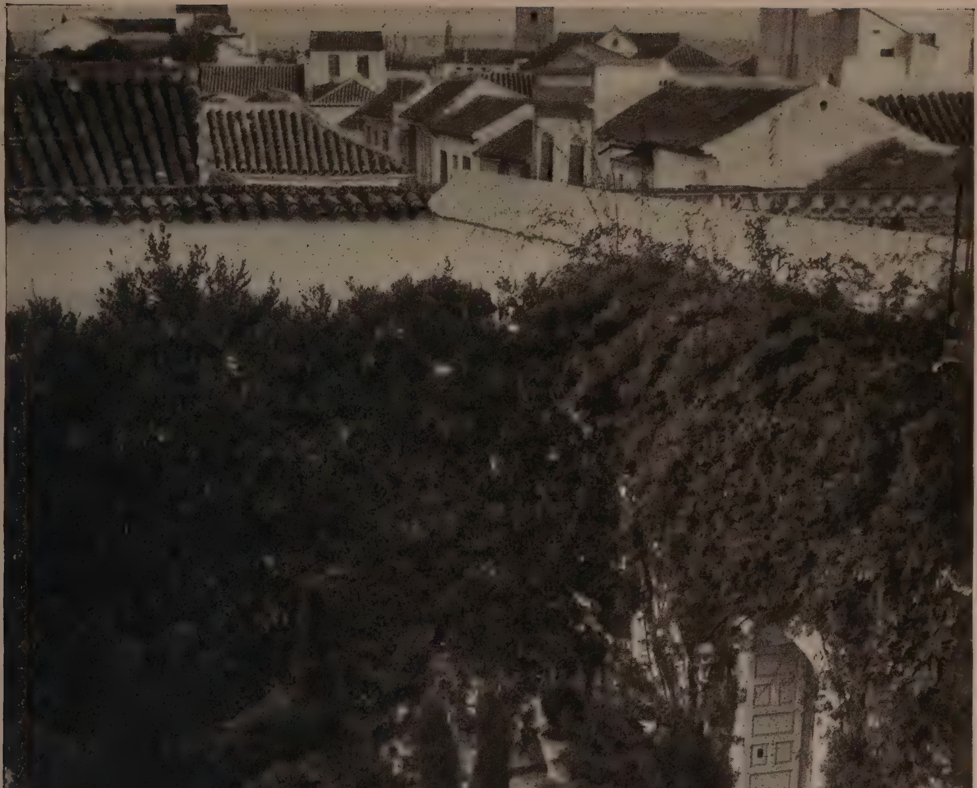
White walls softened by vines
GARDEN OF THE MARQUES DE VIANA, CORDOVA



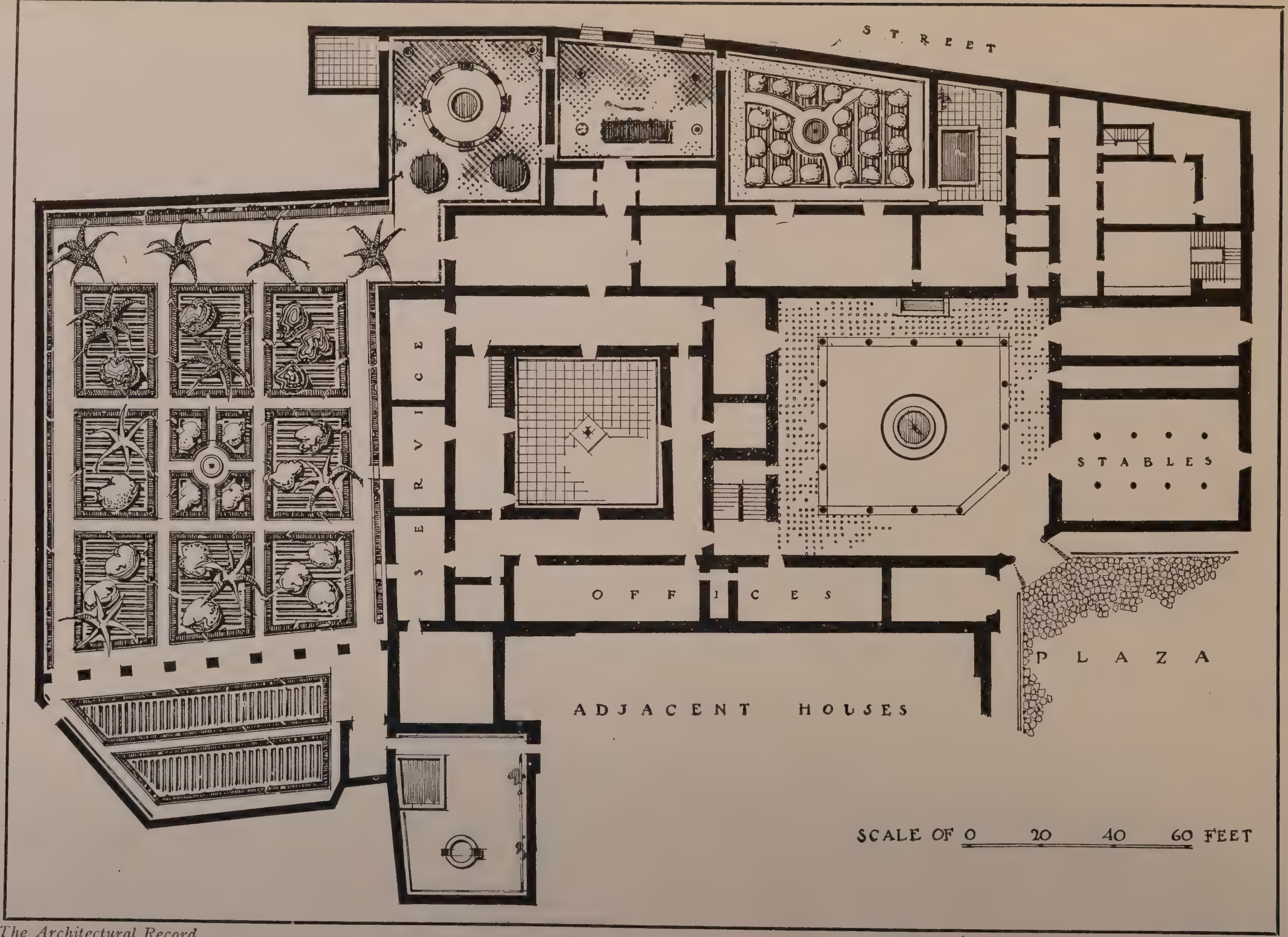
Loggia paved with river pebbles
GARDEN OF THE MARQUES DE VIANA, CORDOVA



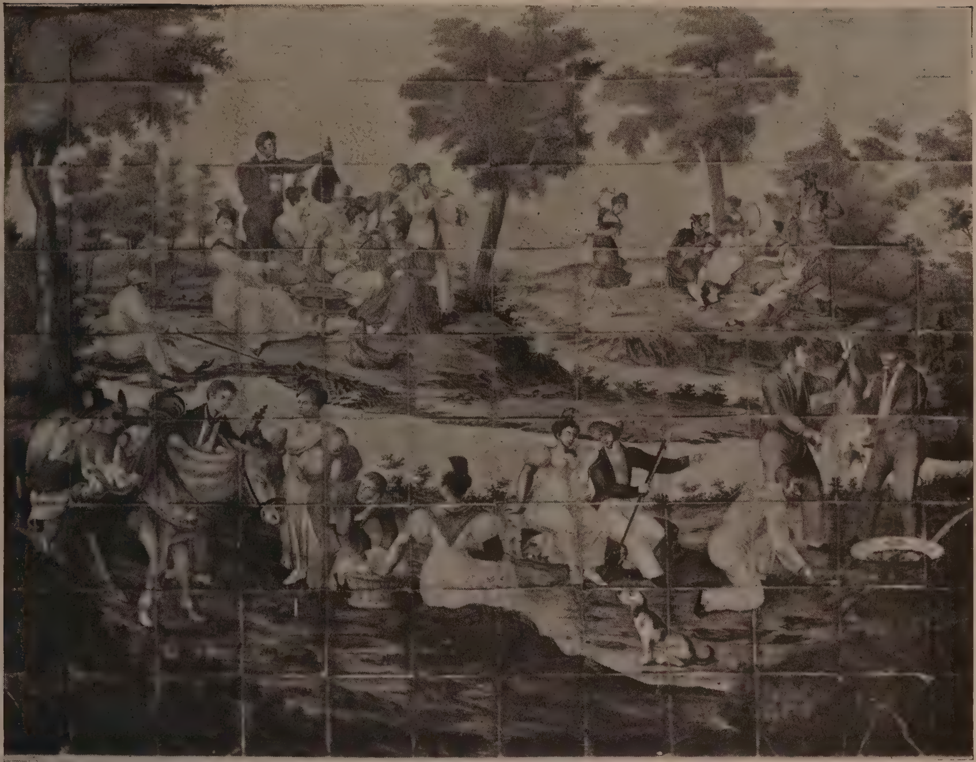
Blue wooden gate, the vertical members cut with the profile of a spindle
GARDEN OF THE MARQUES DE VIANA, CORDOVA



One of the paved enclosures whose central motif is a Gothic arcade formed by ancient cypress trees
GARDEN OF THE MARQUES DE VIANA, CORDOVA



PLAN OF THE PALACE OF THE MARQUES DE VIANA, CORDOVA



TILE PICTURE OF A PICNIC, DATED 1809, FORMERLY ENCRUSTED IN A GARDEN WALL

this Cordova example, in contrast to those examined in Seville, is devoid of azulejos.

The smaller towns of Andalusia supply little of importance in the way of real gardens; here and there as at Ecija, Osuna, Jerez, Cadiz, pretentious patios of considerable architectural merit and good planting may be found; but what the lesser towns chiefly yield would be small patios and garden details of a simple picturesque quality.

CITY PLANNING IN HOLLAND

By

Charles W Eliot, II

ARCHITECTS AND town planners from all over the world recently met in Amsterdam for the annual conference of the International Garden City and Town Planning Association. The choice of the meeting place was a happy one, not only because of the central location of Holland, but also because the work of the Dutch on housing and city planning problems is of peculiar interest and importance.

Many of the cities of Holland have grown in accordance with preconceived plans and all of them have always theoretically possessed the legal powers for constructive city planning. The modern work in this field is based on a national law of 1901 and its later changes and extensions. This law and those since enacted contain some provisions of special interest to American architects and the machinery set up under them is illustrative and suggestive. Particularly important is the control exercised by the Dutch cities over zoning and platting, appearance and design of buildings, and the preservation of monuments. These are just the subjects with which American city planners have long been struggling.

The law of 1901 made it compulsory for every city in Holland with more than 10,000 population to prepare a city plan and to revise it at least every ten years. The plan determines the location of all public properties, streets and parks, provides that the city shall build all streets and decrees that no structures may be erected except in relation to an authorized street. The citizens are protected in their rights by the machinery of the plan, which entails a vote of the City Council, a month for filing objections and hearings, and the repassage of the adopting ordinance, either in the original or a modified form. After this second passage appeal may be still taken to the Crown.

Control of the appearance of buildings started at The Hague in 1910 in connection with the leasing of city-owned land to certain building societies. The leases made after that date contained provisions requiring the filing and approval by the City Council of the plans for all structures. The Council set up an advisory committee to administer these affairs and thus the "Beauty Commission" was born. The Commission is composed of nine members serving two year terms, of whom six are nominated by the Council and three by the local architectural societies. The directors of various city departments, such as those of town planning, public works, parks, arts and sciences, and the inspector of buildings, are also members but they have no votes. The work of the Commission is chiefly preventive. It can forbid the erection of ugly structures, including billboards; and it has the power to stop the building of any structure and to require the adoption of a new or modified design.

But this is not all. For the development of city-owned land a general architectural design of street frontages is prepared by the Commission and must be followed by private builders. If an owner insists on having his own architect, the latter must coöperate with the city designer. The original sketches are paid for by the Commission, the final plans are paid for by the owner and developer.

In Amsterdam the "Beauty Commission" is a larger body with a membership of architects, landscape architects, archaeologists and laymen. Their authority is not final and their advice may be rejected by the City Council, but the field

WORKERS HOMES OF THE HOME BUILDING SOCIETY AT THE ZAANHOF, AMSTERDAM

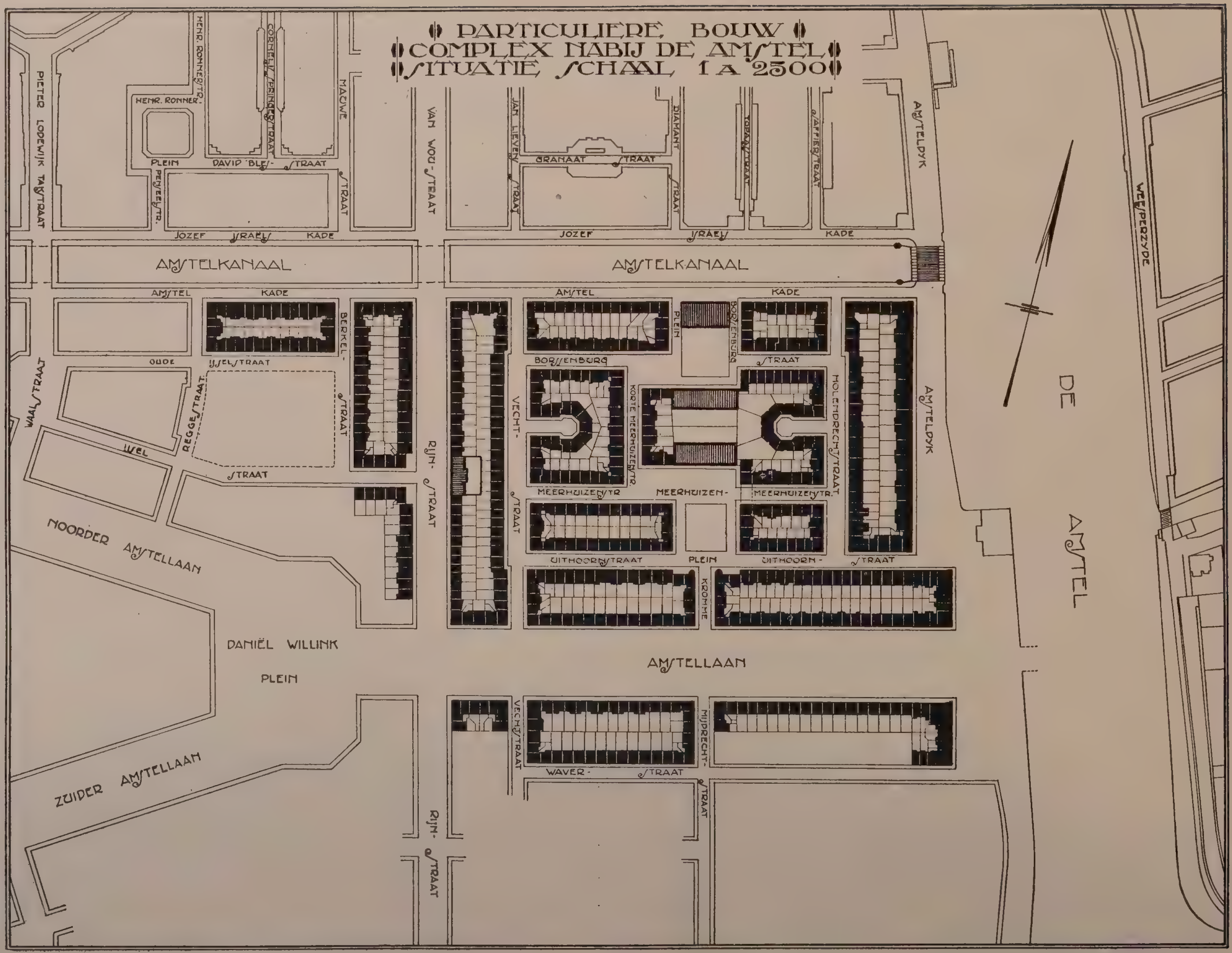
of their jurisdiction includes the preservation of old buildings as well as the prevention of ugly new ones.

The work for the preservation of monuments in Holland is similar to that in other European countries. Attempts to broaden the scope of the work to include scenes of natural beauty have not succeeded, but the methods of selecting buildings to be preserved are worthy of note. At The Hague, a commission of architects, historians and educationalists prepares a list of buildings or groups of buildings which is submitted to the City Council and published. Notification is sent to all owners of buildings concerned and after the Council approves the list no change in external appearance is allowed without the consent of the Commission.

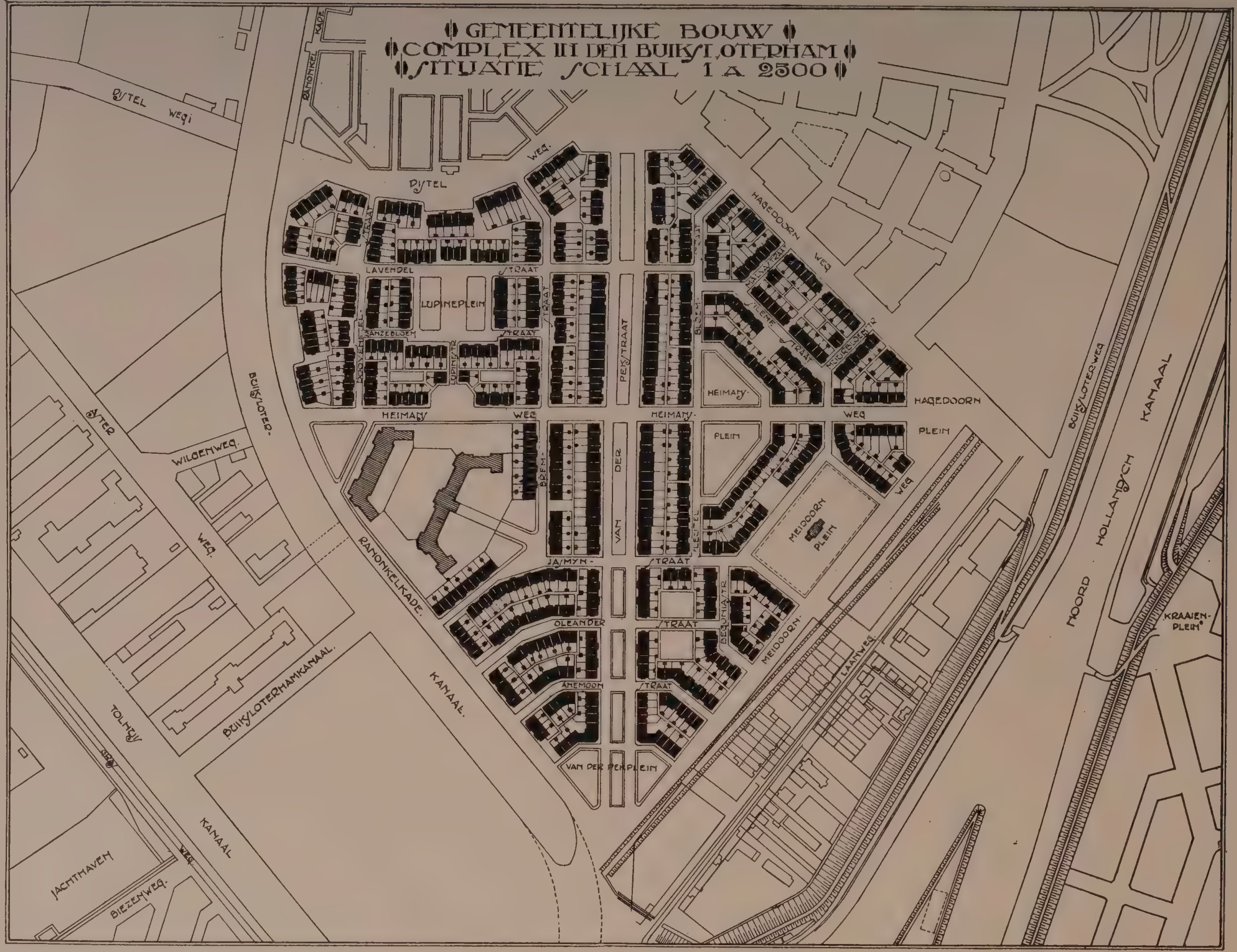
But the progress of city planning in Holland is marked not only in the field of control but also in the field of construction. Since the war the larger cities have increased considerably in population and area and almost always along lines laid down by preconceived general plans. The results are distinctive in several ways.

The new houses in such cities as The Hague, Amsterdam and Rotterdam have usually been built by the city government or by "public utility societies." The work has been done on a large scale so that group compositions and quantity production have been possible. These compositions of whole streets or neighborhoods, conceived and executed by a single or by coöperating architects, constitute the most distinguishing characteristic of modern city planning in Holland.

The quality of the new work shows the dominating influence of the followers of the new school of Dutch architecture. Architects have played the leading rôle in formulating the street plans as well as the street elevations, and the result of this intimate relationship between the arts of City Planning and Architecture has been to increase the possibilities open to the City Planner. In most countries the lack of any control over the architectural treatment of the streets and squares laid out by the city planner has resulted in the adoption of the most simple and self-evident forms of lay-out, forms which will be least marred by jarring notes and which are least likely to be spoiled by the particular design of any single building. From these severe restrictions on his art the Dutch city planner has been largely freed. The great areas of land owned and developed by single authorities and the intimate relationship existing between



Private building program near the Amstel River

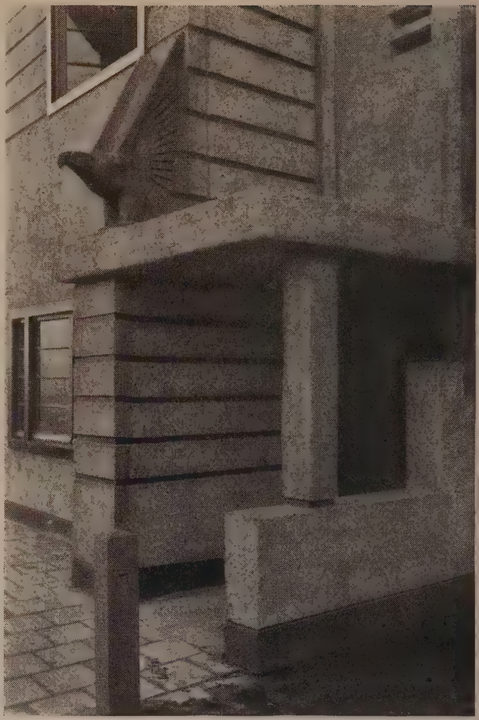


Municipal building program in the "Bviksloterham" which is reclaimed land situated to the north of the Y or harbor architects and town planners—often the same individuals—has made possible all sorts of novel compositions.

As might be expected from the predominance of architects in city planning work, the plans show a strong tendency towards formal compositions, geometric designs, and the almost entire absence of so-called "naturalistic" lay-outs. On consistently flat land, there is not the excuse of grades or topography to cause the introduction of picturesque and informal compositions, but nevertheless the new Dutch work is not lacking in "picturesqueness." The new school of architects seem to have felt the need for relief from the formal and have developed new and often frankly queer forms in the architecture of their buildings. They have concentrated their attention on the juxtaposition of planes and relief of surfaces so that while there is proper balance and symmetry there is also variety.

The first impression on seeing examples of the new architecture in Holland is certain to be one of surprise at the abandonment of the familiar expressions of wood and stone and their replacement by new forms intended to express structure of brick, concrete and steel. After all, why not? It is certainly legitimate and creditable to seek a modern expression of modern materials and methods of construction. Although sometimes the new forms seem a bit forced and exaggerated, the results have a distinct vitality.

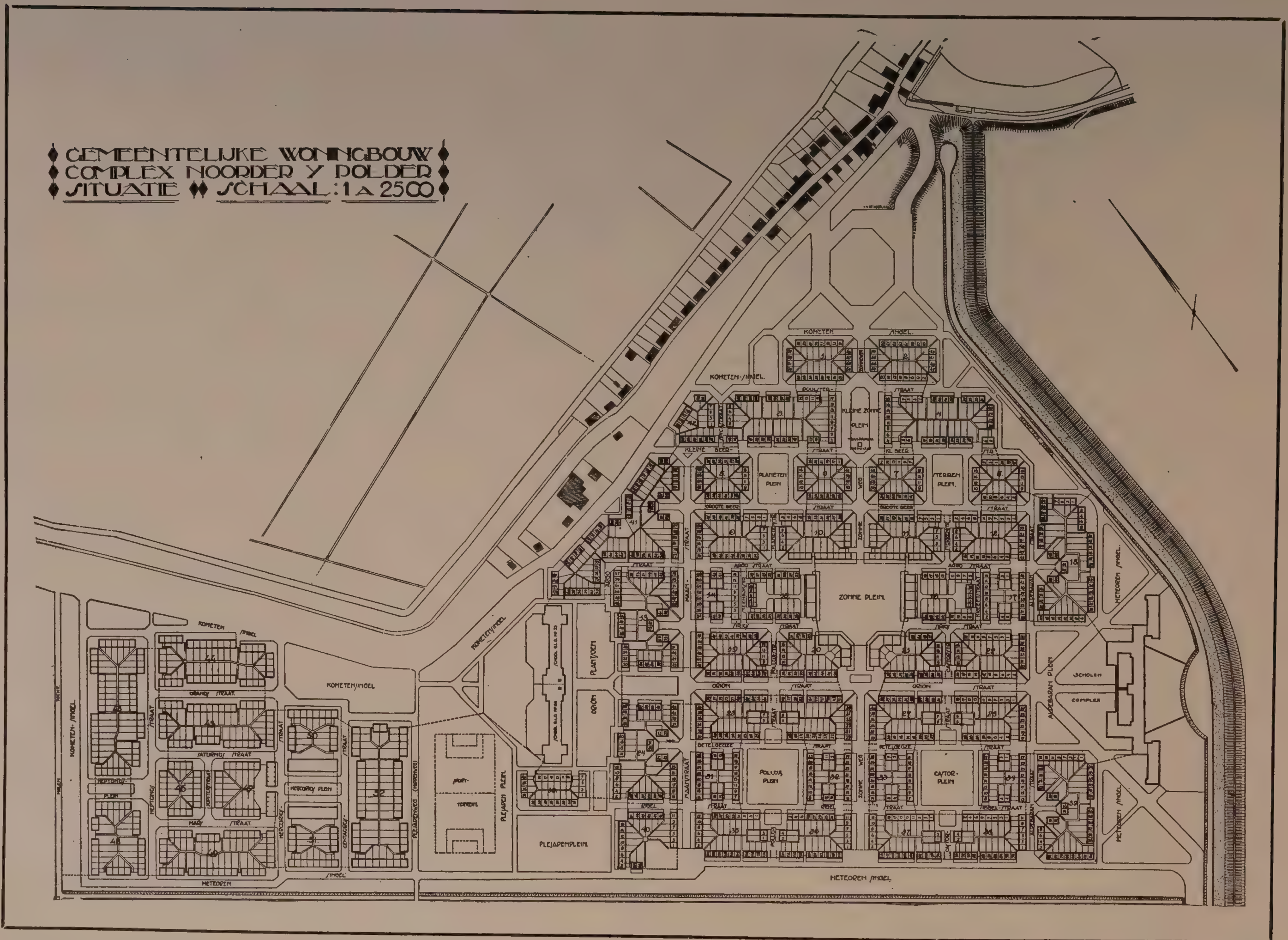
The importance of horizontal lines in contrast to the domination of the vertical in modern German work, is one of the most striking characteristics of the new architecture in Holland. A second characteristic is the use of color *en masse,* either with different colored stones, bricks and tiles, or with extensive glazed surfaces. But these two features, important though they are, do not attract the eye so immediately as do the variety of strange shapes and curves, and the odd uses of materials which one associates with different environments. Whether or not one considers the attempt to express materials and uses successful, whether or not the new Dutch architecture appeals to one as beautiful or fine, every one must admire the courage of the architects and the virility of their work.



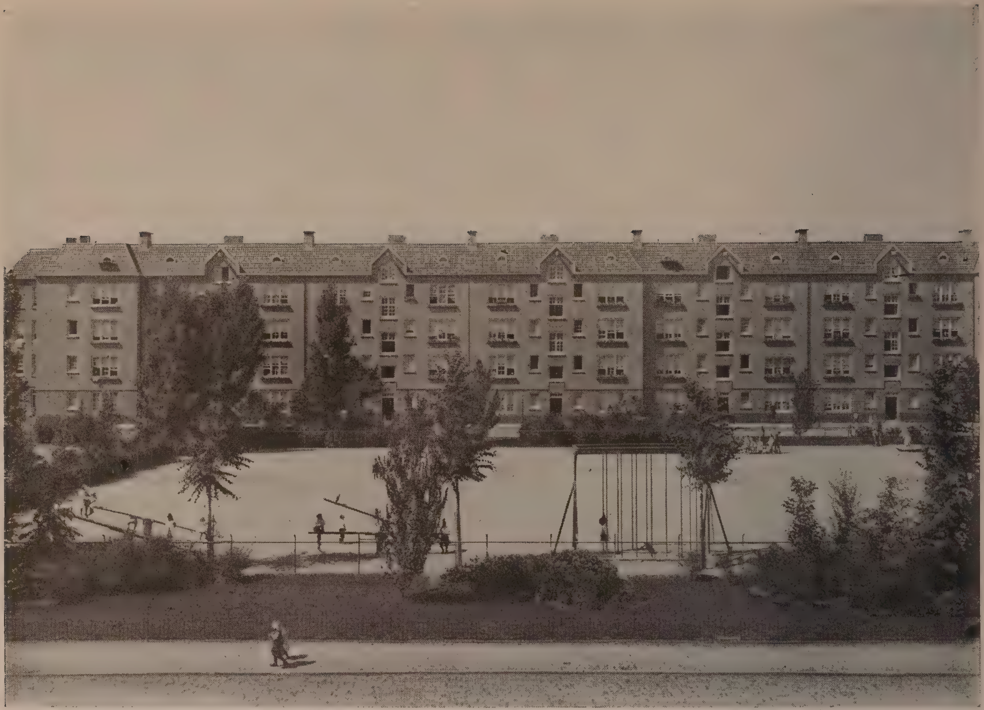
DETAIL OF ENTRANCE

What is true of the architecture considered by itself is also true of the arrangement and design of buildings in the city plan. It is particularly true as regards the interior development of blocks and the treatment of streets as unified compositions. Here again, whatever one may think of the use of solid row or "terraced" house development, one must admit that the Dutch have succeeded in forming unusually effective and interesting street and block compositions.

The development of interiors of blocks has been handled with great skill at both Amsterdam and The Hague. The enclosure in these cases is complete and the buildings are carried right over the vehicular entrances. Often the outside ring of buildings is higher than the inside ring, or vice versa, so that the mass forms a concave or convex composition. Sometimes the difference in height is con-



MUNICIPAL HOME BUILDING PROGRAM PLAN "NOORDER Y POLDER"



SOCIETY "THE WORKERS HOME" VAN BEUNINGENPLEIN

Architect—De Bazel

fined to the sections over the entrances where the space lost to provide for the roadway is regained by provision of an additional story at these points.

The street compositions are equally interesting and here the emphasis is on the street intersections. Each street, in the best work, is definitely treated either as an enclosed unit or as a passage between units. Whichever course is followed the crux of the problem lies in the handling of the corners of the buildings. The rest of the street design is unified by similarity of architectural line and form, and by texture and color of materials. The Dutch have made some new and important contributions to the solving of the problem of making the corner buildings express the relation of the street to itself and to its surroundings. They have erred occasionally in making the middle sections of their streets almost monotonous. Sometimes the compositions are too extensively long and the angle of view desirable to enjoy the balance and symmetry is too wide, but these faults are only incidental while the achievement of strongly unified blocks and streets is most worthy of study by all city planners.

The conference at Amsterdam in July was devoted especially to discussion of Regional Planning. This is the work of the future for Holland as it is for other countries. The program that Dr. Hudig arranged was full of interest and inspiration, but the delegates from foreign countries found equal interest in the actual accomplishments of their Dutch hosts.

NOTES AND COMMENTS

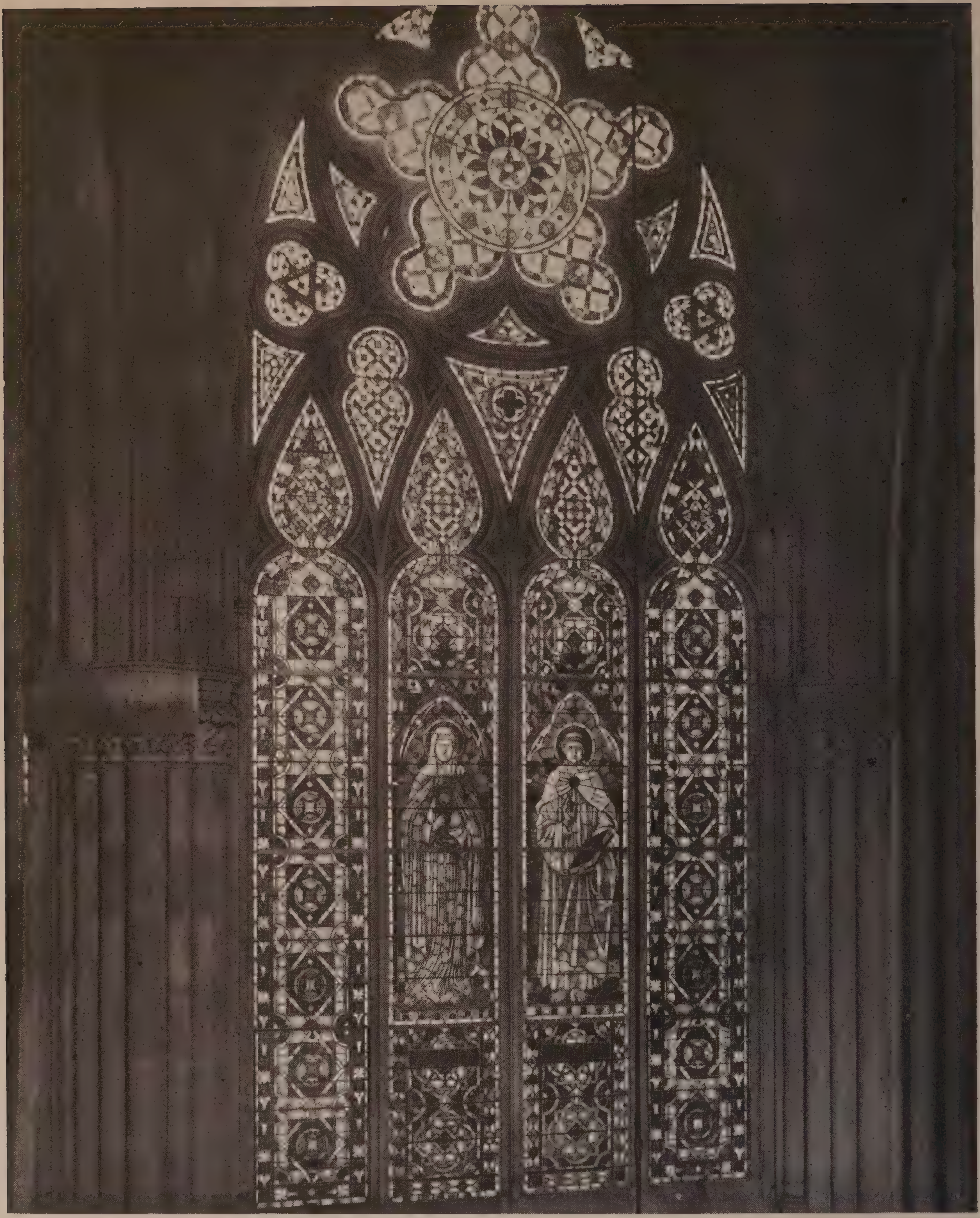
RECENT WORK OF CLEMENT HEATON IN STAINED GLASS

A series of stained-glass windows has been installed recently in the Church of the Blessed Sacrament, New York City, designed and executed by Clement Heaton, architect of ecclesiastical buildings. One will be well repaid for any time consumed in their inspection, by the unusual degree of pleasure which they impart. Work of such calibre is rare at any period; it is an important item of professional information to know from whom it can be procured when the occasion arises. These windows reveal the great skill which this artist possesses in calculating and controlling subtle decorative values in design; this form of adjustment is rarely found in modern glass, though in medieval times it was apparently an innate faculty of the craftsman; the facility with which he utilizes this rare gift places him, in our estimation, in the leadership of his craft. There is not a phase of the mechanism of effect which he overlooks, nor an artistic capacity of his material which is undeveloped. In studying these windows we find the true relation which should exist between architecture and its allied arts, as the latter is entirely subordinate in its decorative development to the premises established by the former.

Each section of these windows has an individual formal value; its decoration is so designed that there is no risk of its overstepping its stone boundary to associate itself with the ornamentation of an adjacent space, which, through lack of artistic foresight, happens to be of similar decorative character: mullions and tracery rigidly control the variations in decorative quality, serving as an inspiration to imaginative effort instead of an obstacle. In the window which we reproduce, this adjustment of formal values can be appreciated in the accentuation of the rose, and in the treatment of the two outer windows which act in transition between the luminosity of the rose to the more subdued treatment of the subject windows in the centre.

One of Mr. Heaton's rarest gifts embodied the true decorative function of stained glass; he uses light in precisely the same manner as the painter uses pigment. Every detail impresses us primarily with its luminosity; we never feel that we are looking at a transparent painting with the light shining through, as so frequently happens with modern glass, but that *light* in its prismatic phases has assumed ornamental significance; admiration is compelled by the technique which produces so valuable a result. With the purpose of controlling light decoratively always before him, he uses motifs of great simplicity by preference, but with such excellent judgment in the manner of their mutual relation and the character of their coloring, that effects of the most sumptuous order are attained. A life-long study of works by the past masters of his art, has placed him in possession not only of their technical methods, but also of the admirable manner in which they distributed color in composition. This skill in regulating chromatic values is of considerable assistance in the adjustment of his carefully considered pattern-values. The quality of ornamental virility attracts us powerfully in Heaton's design and coloring; it makes his work essentially a man's contribution to the beautifying of the House of God, compelling the light of the heavens to pay artistic tribute.

In the treatment of Heaton's figures we find the austere grace of the Middle Ages; he disdains the sensuous appeal of the conventionally pretty face and that display of physical charms which is so frequently tendered as bait to stimulate religious devotion to sacred or saintly personages. We regret



A Clerestory Window
CHURCH OF THE BLESSED SACRAMENT, NEW YORK CITY
Stained Glass by Clement Heaton

to note a prevailing tendency in the clergy, and also in architects of our time, to resort to this vulgar prescription for curing the modern lack of religious enthusiasm. The clerical argument which supports this error of taste is, that the mentality of the illiterate majority is the controlling factor determining the personal appearance of the saints; the position is taken, that the popular concept of purity and sweetness which is materialized in the type representing Our Lady of Lourdes is more devotionally stimulating to the masses than the archaic dignity of the æsthetically beautiful Madonnas of the Romanesque periods. There is material for considerable discussion in this consideration; should the representation of sacred and saintly personages be regulated by the current popular concept of physical comeliness, or should the maximum degree of detachment from the mundane be sought as conducive to thoughts and sentiments that are essentially not of this sphere? In these pages we are concerned only to the extent of registering regret when we find the stained-glass windows of a finely designed church featuring angels, etc., transposed from Mid-Victorian Christmas cards; or dismay, when the Neo pre-Raphaelite manner gives them the lips of the dryad, and sunken eyes which imply anything but vigils spent in prayer.

In the course of his travels and residences in the countries of eastern Europe, Clement Heaton has accumulated an unequalled wealth of information concerning the design and technique of ancient windows, which he has recorded in color studies and notes. Owing to its dimension, and the necessity for a large number of color plates, this great monograph remains unpublished; it is to be hoped in the interest of progress, that one of those great educational institutions which have done so much of recent years with their publications in the cause of art, will grasp the opportunity to publish this invaluable record.

Leon V. Solon

THE LATE WM. D. HEWITT

With the death of Wm. D. Hewitt Philadelphia loses one of her oldest and best known architects. The firm of G. W. & W. D. Hewitt, so well known to an older generation, was founded 52 years ago and reached the culmination of its work in the late nineties and early part of this century. Two of the largest buildings done by this firm were the Philadelphia Bourse and the Bellevue-Stratford Hotel. They built over fifty churches, mostly in the Victorian Gothic style, in various parts of the country, even Ireland and South Africa calling on this Quaker City firm for their church plans.

The Devon Inn and the Wissahickon Inn show the strong leaning of this firm toward the English style and all through their work, especially those buildings largely due to the creative ability of William D. Hewitt, there was a saneness of design and simplicity of plan that ever mark his work.

There was nothing small about William D. Hewitt; large and strong physically, his work too was robust and free from mannerisms and bespoke a grasp of the problem which ignoring unnecessary frills reached for the solid essentials.

While Mr. Hewitt's work showed little influence of the Beaux Arts school, which was to be expected of a man who got first inspirations from Frank Furness, still I know of no architect more concerned with the proper development of the plan as the necessary starting point in the design than he. Prout's saying, that if the plan be straightforward and logical and solve the problem at hand, then the elevations would take care of themselves, seemed to be ingrained in Mr. Hewitt's work.

A large residence on the Main Line, a bank in Burlington, a church in Allentown, and a hospital in Philadelphia, whether in English Gothic, or Classic, or French or Renaissance, through them all runs the same sterling note, a straightforward, simple plan with the elevation rather massive and the details strong and at times almost coarse, but never frivolous, nor effeminate.

It is only necessary to consider the large amount of work done by Mr. Hewitt to realize how successful he was as an architect, but as a man he was even more successful if one is to judge by personal worth and sterling character; indeed to me he always seemed to have some of the qualities of Lincoln, big hearted, generous, self-effacing, with a keen sense of humor and a fund of anecdote.

Just about a year ago the Philadelphia Chapter of the A. I. A. tendered a dinner and presented a loving cup to Mr. Hewitt, a former president of the Philadelphia Chapter, upon the completion of his fifty years of unbroken membership. On that occasion he was full of life and vitality and responded to one of the toasts with a song; now his song is hushed and we have only the memory, but in these days of strenuous competition that memory is inspiring, breathing of simplicity and sincerity of character.

Mr. Hewitt was born in Burlington, N. J., about 76 years ago. His father was a musician and Mr. Hewitt was always very fond of music. He was educated at Burlington

College and the Polytechnic Institute of Philadelphia, receiving his degree a few months before his graduation to enable him to respond to the call for troops before the battle of Gettysburg.

Later he travelled and studied in Europe and for a number of years was head draftsman for Furness and Hewitt. The late Louis Sullivan in his "Autobiography of an Idea" refers to the favorable impression that Bill (only he miscalled him John) made upon him on his entering the office of Mr. Furness. He particularly referred to Mr. Hewitt's charming way of illustrating his ideas with very clever and crisp sketches.

From this position Mr. Hewitt later formed a partnership with his brother George, which lasted until about 1902 when his brother retired from business and the firm became Hewitt, Stevens & Paist, which was succeeded by Hewitt and Granger, and finally in 1917, by Hewitt & Ash. Mr. Hewitt was indefatigable in his attention to his work and was busy with his plans until the very end. His hobby was hunting and fishing, and he had at one time a fine collection of rifles; his idea of a real vacation was a trip in the woods of Maine or Canada, not only for the game, but in the enjoyment of the out-of-door life.

In the passing of Mr. Hewitt, Philadelphia who knew him has lost much, and the architects a friend in whom there was no guile.

Percy Ash

NATHAN CLIFFORD RICKER

1843-1924

The death of Dr. N. Clifford Ricker, Professor Emeritus of the Department of Architecture of the University of Illinois, marks the passing of one of the pioneers in architectural education of America.

The University of Illinois was the first educational institution in America to graduate a student in architecture. Nathan Clifford Ricker was the first student in the United States to have completed a full collegiate course of architectural training. Doctor Ricker continuously maintained his connection with the Architectural Department of the University of Illinois from his graduation until his death.

While Doctor Ricker's mind was not of the brilliant, creative type, his scholarship was profound. For many years he adhered to the fixed daily rule of translating a certain number of pages of some foreign scientific or historical work. His tenacity of purpose was almost beyond belief.

In the early days of his teaching there were no text books available on the many architectural subjects which he had to teach, but he prepared and issued them in blueprint form, making the drawings for illustration and hammering out the typewritten negatives, with his own hand. In this manner he issued a text on "Stone, Brick and Metal Construction;" others on "Architectural Office Practice;" "Graphical Statics" and "Trussed Roofs;" "History of Architecture;" "The Science of Heating and Ventilating;" "Estimates and How They Are Made," besides numerous lectures and translations on various architectural subjects.

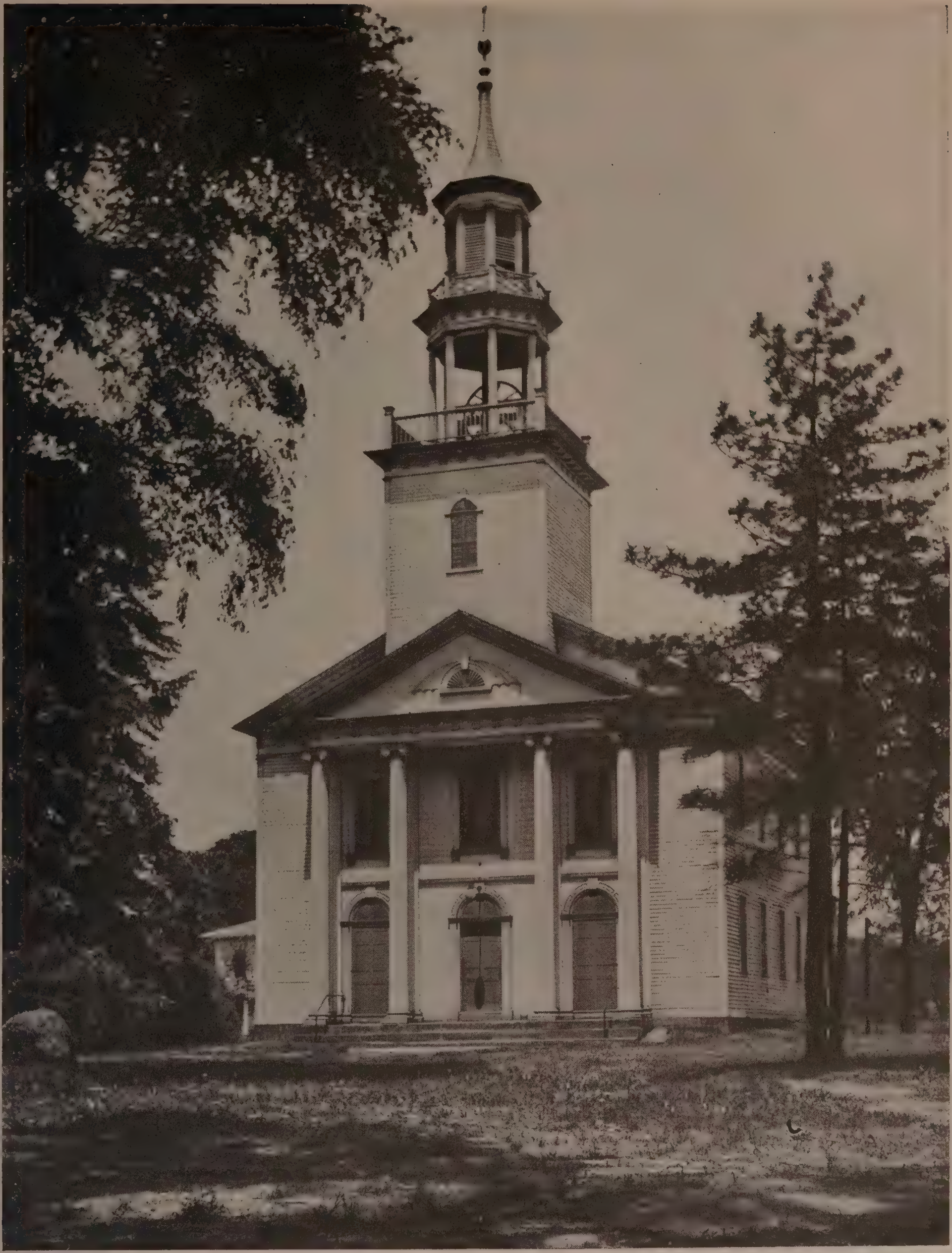
Doctor Ricker was a discriminating collector of books on architectural subjects. His extensive knowledge and experience enabled him to collect in the Ricker Library of the University of Illinois, at least one of the best, if not the best, architectural research libraries in America.

At the inception of architectural registration in Illinois, Doctor Ricker became a member of the Illinois Architectural Commission as representative of the University of Illinois and he continued a member of the Commission for many years, a large portion of which time he served as Chairman of the Registration Board. His work during the formative period of the administration of the Registration Law was careful, sane, consistent. He worked always with an ideal only for the elevation of the educational standards of the architectural profession to the end that the interests of the public might be better protected in the service of that profession.

TWO EARLY OHIO CHURCHES

Few features of a New England village are more distinctive than the white meeting house with its spire pointing upward from among the trees. It is the first indication the traveler has that he is approaching the town and it is apt to leave the most lasting impression on his memory as he leaves it. Religion was so essential a part of life with our Puritan forefathers that it is fitting that the church should be the highspot in their architecture, and there is in the simple dignity of these old churches a quality that is an index to the character of the people and their religion.

After the Revolutionary War there was a great exodus from New England to the newly opened Northwest Territory, or to that part of it now known as Ohio, and as the immigrants settled in their new homes, their first care after providing the absolute necessities, was to build meeting houses which they naturally modeled after those in which they had worshiped back East.



The Architectural Record September, 1924

CONGREGATIONAL CHURCH, TALLMADGE, OHIO
Built 1822-1825

So we find today scattered about Ohio, particularly in the smaller towns that have not been afflicted with the mania for modernizing, most interesting old churches which, so far as style is concerned, might belong in any early New England village.

They were built by men who had learned their trade on just such buildings in the East; whose knowledge of architecture was limited probably to this style of building; and whose text books, if they had any, were the works of Asher Benjamin or others of his kind whose designs were of this school.

The Congregationalist Church at Tallmadge is one of the oldest in the state, having been begun in 1822 and completed in 1825. It is quite impressive in effect, has a square tower with an octagon open belfry and a pedimented portico with a rather attenuated Ionic order, the spacing between the two middle columns of which is quite exaggerated.

Somewhat similar in general appearance but quite different in detail is the Clariden Church, which was erected in 1834. This is unusual in having three pilasters to carry the pediment, thus dividing the projecting front into two parts, each of which is pierced by a door and window. The pilasters have recessed panels which are enriched top and bottom by crude frets and are surmounted by even cruder Doric capitals. The detail of the entablature follows Doric traditions with considerable fidelity.

By some freak of fancy the windows have been given pointed heads, but it may be that this is a later "improvement."

Churches as pretentious as these are quite exceptional today in this locality, for they were usually located in towns that have grown and prospered. With this prosperity grew a feeling that the old churches were old-fashioned and out of date, and they were destroyed to make way for "up-to-date" structures, most of which are pitifully inferior to their predecessors in beauty, even if not in convenience.

Those that have escaped are to be found mostly in small and remote localities and are disappearing all too rapidly or, what is equally regrettable, are being "improved" beyond hope of redemption.

It is to be hoped that before it is too late means will be found for preserving the finest of these old churches, or, better still, that a spirit of appreciation for them will be developed which will preclude any possibility of their destruction.

NOTE—Since this article was written, records have been found which show that the "joiner" work on the Tallmadge church was superintended by Col. Lemuel Porter, who came from Waterbury, Connecticut, in 1817. He was a well trained draftsman, designer and carver as well as a carpenter and in 1826 took the contract for the first of the buildings for Western Reserve College at Hudson. In 1829 he was given the contract for the college chapel, but he died in September of that year, leaving the completion of the work to his son, Simeon Porter. These buildings were illustrated in the Architectural Record of December, 1923.

I. T. Frary

Albert J. MacDonald

The sudden death of Albert J. MacDonald, at Wareham, Mass., on Sunday, August 17, comes as a shock to his many friends. Possessed of a singularly genial and sunny disposition, it might be truly said that he made a friend with each new acquaintance. Born at Brookfield, Mass., December 17, 1889, he studied at the Massachusetts Institute of Technology, and later was employed as a draftsman in the office of Aymar Embury II. Always interested in the editorial aspect of publishing as well as in architecture, he was for a time Assistant Editor of The Architectural Review, then published by Bates & Guild in Boston, and in 1913 he became associated with the late Arthur D. Rogers in The Brickbuilder, which later became The Architectural Forum. Upon the death of Mr. Rogers he became President of the Rogers and Manson Company and Editor of The Architectural Forum, in which capacity Mr. MacDonald rendered a singular service to the architectural profession. His clear sighted appreciation and unfailing understanding of the essential elements of architectural design and practice, as well as his untiring endeavor to give the profession fresh inspiration and constructive information will ever remain as enduring evidence of his rare ability and generous spirit.

The ARCHITECTVRAL RECORD

OCTOBER 1924

Riddle

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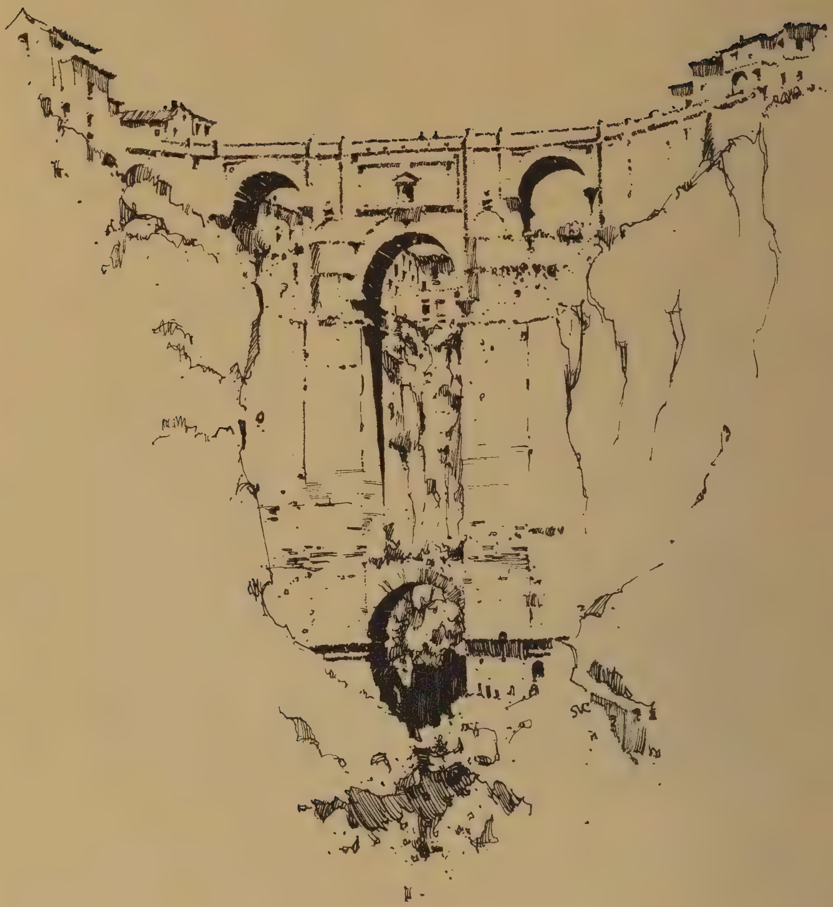


THE BRIDGE AT RONDA - (SPAIN)

The
ARCHITECTVRAL
RECORD

The
ARCHITECTVRAL
RECORD

VOLUME 56 OCTOBER, 1924 NUMBER 4

The FUNCTIONS and PLAN-TYPES of COMMUNITY BUILDINGS

By
Dwight H. Perkins
and Howell Taylor

THE TITLE OF THIS PAPER has been carefully chosen by the Editor of THE ARCHITECTURAL RECORD. It limits it to consideration of the practical uses of community buildings and the manner in which their requirements have been provided for. The title is interesting because of what it excludes; namely, architectural design or style. While community buildings have developed a recognizable individuality, it is too early to write about the most appropriate style of architecture for them. It is, also, too early to discuss the style of architecture of existing buildings because, even that is as varied as the places and architects concerned and, further, no permanent or distinctive style has been adopted by existing community buildings, nor is it reasonable to suppose a particular architectural design will become peculiar to community buildings.

Nearly every building erected, except the single family residence, might be regarded as a community building. Certainly stores, where numbers of people are served by merchants; railway stations, where travelers are accommodated; hotels, where guests by the hundred are entertained by unknown hosts; these are all community buildings. Nevertheless, when the Editor chose this title, he had a type of building in mind; one that is more or less commonly recognized. It is apparent he was thinking of buildings designed for purposes similar to those provided for by public or semi-public club houses, in which the membership is democratic and local, as for example the park recreation building or the privately maintained settlement house.

The authors' conception of a community building is that it is one which provides inspiration and opportunities for the development of the higher life of the people. It is distinguished from the merely utilitarian factory, where the products are material, in that a user of such a building and its facilities, may be a healthier, a wiser or a better man or woman. It is the outcome of recognition of the principle that no person can reach his highest development alone, but that such development comes through communion with his fellows. It proceeds on the premise that what is good for the whole is good for the individual, and vice versa.

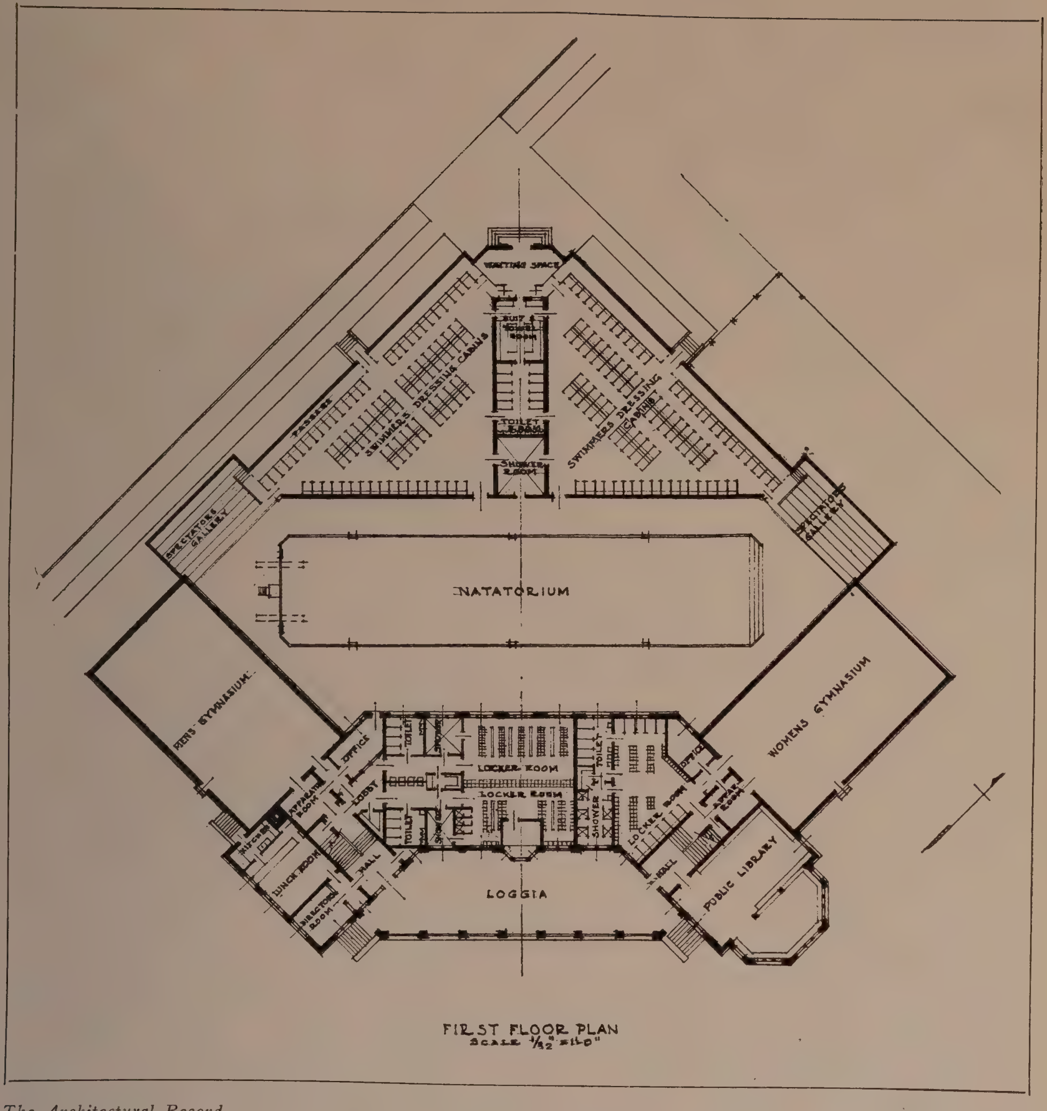
If the term "social settlement" were used, the meaning would be reasonably clear and the readers' understanding fairly uniform. Social settlements in Chicago are Hull House, Chicago Commons, Northwestern University Settlement, Chicago University Settlement and forty or fifty others of similar nature. People have become actual residents among those to whom they extend fraternal, neighborly relations. In response to the need buildings have grown which include club rooms, eating rooms, gymnasiums, auditoriums, recreational facilities, social rooms, neighborhood theatres, kindergartens, schools, libraries, in fact, facilities to provide for the educational and recreational needs of the locality.

It soon became apparent that the opportunities for good far outran the range of private funds. The playground, at first inadequate, grew to be the neighborhood small park and later the playground in conjunction with the school. Park boards, and school boards as taxing agencies, as custodians of public property and as administrators in the interests of public education and recreation, gradually came to realize that their duties had increased. From controlling large parks and boulevards for beauty first and recreation second, they came to consider recreation as primarily important. The idea took root and developed that there should be playground facilities within walking distance of all homes so that children in our large cities might be provided for everywhere. Space was purchased at great cost and as soon as land was provided for the small playground, the need of recreation buildings became apparent and imperative. In one city alone the result was some seventy-five playgrounds and small parks with simple or elaborate buildings, including gymnasiums and natatoriums, indoor and out, for both sexes, library centers, lunch rooms, club rooms, assembly halls, athletic facilities, all as illustrated by such parks and buildings as may be seen at Sherman and Ogden Parks on the south side of Chicago, of Eckhardt and Kosziusko Parks on the west side, and Seward, Hamlin and similar parks on the north side.

A study of the plans will show that these buildings were duplicating largely the work and facilities of the social settlements. The duplication cannot be regarded as a waste, however, because all these agencies combined have not yet provided facilities equal to the requirements.

The park and school boards have the advantage of deriving their support and the authority which they exercise in the administration of these centers from the people themselves. There is no element of charity in the park recreation center. Recreation is given the most liberal interpretation. The people may do anything they wish except discuss politics and religion. Even with this restriction, it is not at all difficult to discuss education which is so inspiring as to be almost religious, and it is quite common to have discussions on civic matters which unavoidably affect in a proper and beneficial way public and political questions.

Social settlements and park recreation buildings, from the beginning have included assembly halls. Twenty years ago they were rarely included in schools; now they are essential to the complete school. The same is true of the gymnasium and with their advent came the idea of public possession and use by the parents at any time not conflicting with school use by the children. The night school has long made use of class rooms in schools, now it is expanding to make use of the shops, laboratories, libraries, social halls and rooms for music and for public speaking



The Architectural Record *October, 1924*

Fig. 1
First Floor Plan
HAMLIN PARK RECREATION CENTRE, CHICAGO, ILLINOIS
Perkins, Fellows & Hamilton, Architects

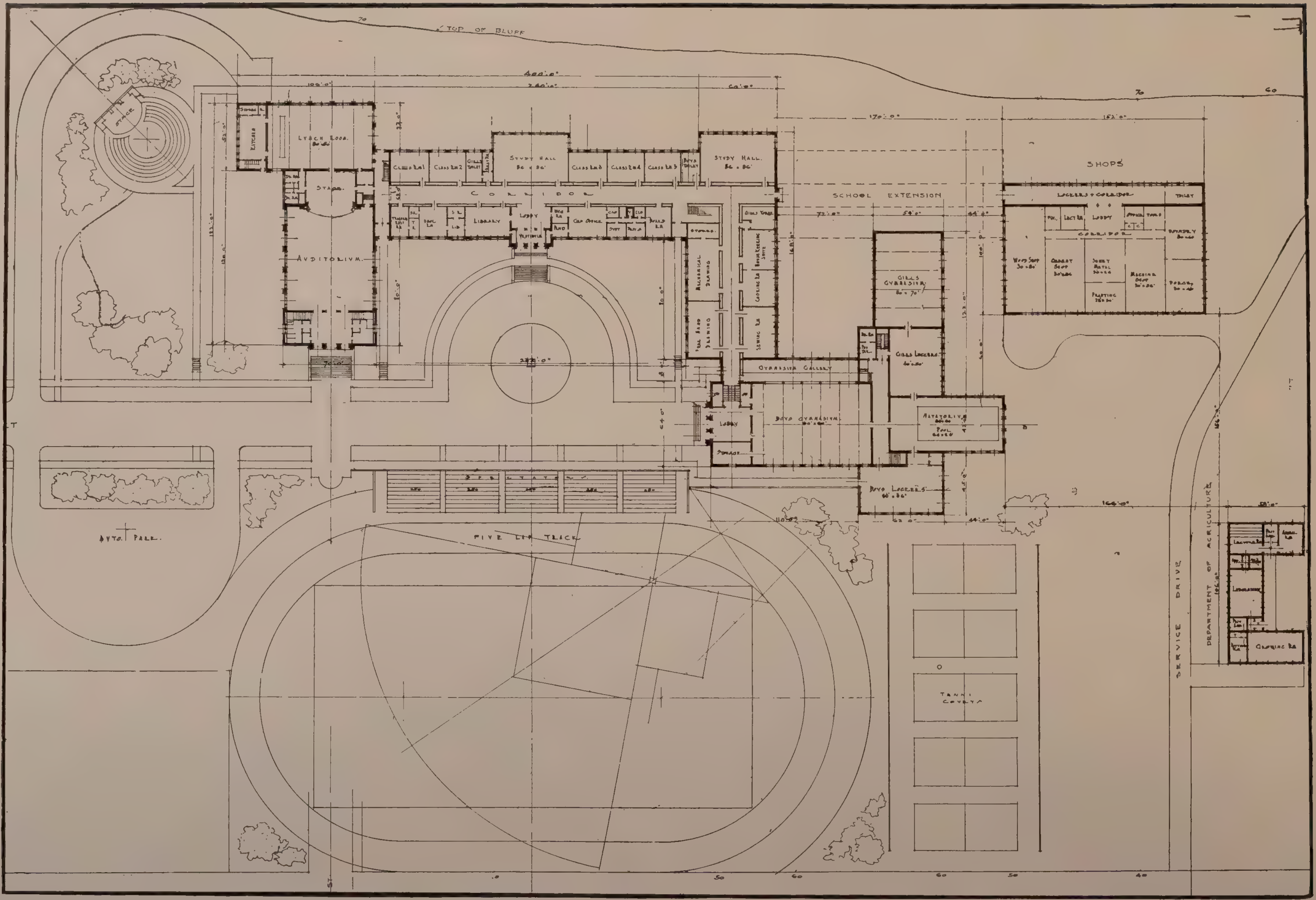


Fig. 2

GROUP PLAN FOR PROPOSED HIGH SCHOOL BUILDING, MANITOWOC, WISCONSIN

Perkins, Fellows & Hamilton, Architects

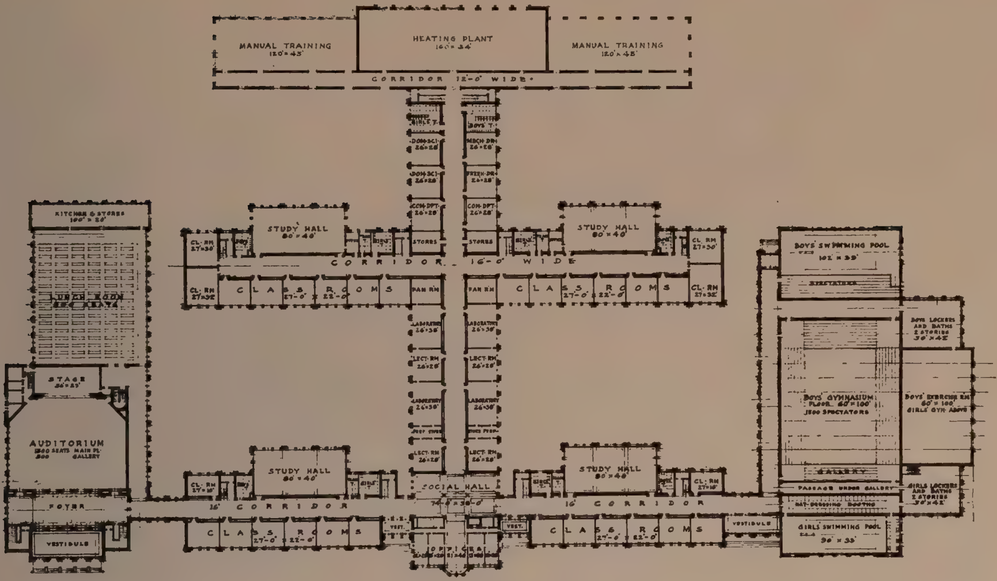


Fig. 3

First Floor Plan

PROPOSED HIGH SCHOOL FOR EVANSTON, ILLINOIS

Perkins, Fellows & Hamilton, Architects

as well as the more commonly appreciated assembly halls and gymnasiums.

Another department in our schools beginning with the simple rest room, equipped only with a couch and toilet, has now expanded and become the headquarters for the school nurse and the examining physician, the oculist, aurist and dentist.

In the last two decades, the public has recognized so rapidly the value of coöperative or municipal provision for recreational and social service, and with it increased educational advantages for adults, that the demands for such service have become practically elemental in every community,—accordingly, in any survey of community buildings it is well to state the program of features which these demands have established as a means of ready reference in studying the accompanying plans:

Assembly hall and stage.
Gymnasiums for men and women.
Swimming facilities for men and women.
Lunch room, banquet hall or restaurant.
Club rooms.
Library.
Committee rooms.
Class rooms.
Laboratories and shops.

Many buildings combine several of these features,—the gymnasium is often convertible for assembly or banquet purposes, the library may be a corner of the club room, committee and class rooms may be one and the same, and the men and women may use the swiming pool on alternate days, but small or backward is the community indeed where there is not included each item in the above list, be it ever so primitive or make-shift. In many a small city the Y. M. C. A. offers the only gymnasium and swimming pool, and a Carnegie building, the library, club rooms and assembly hall. In a southern Michigan city the change from horse-drawn to motorized fire trucks left an unused engine house which immediately became a community building. The

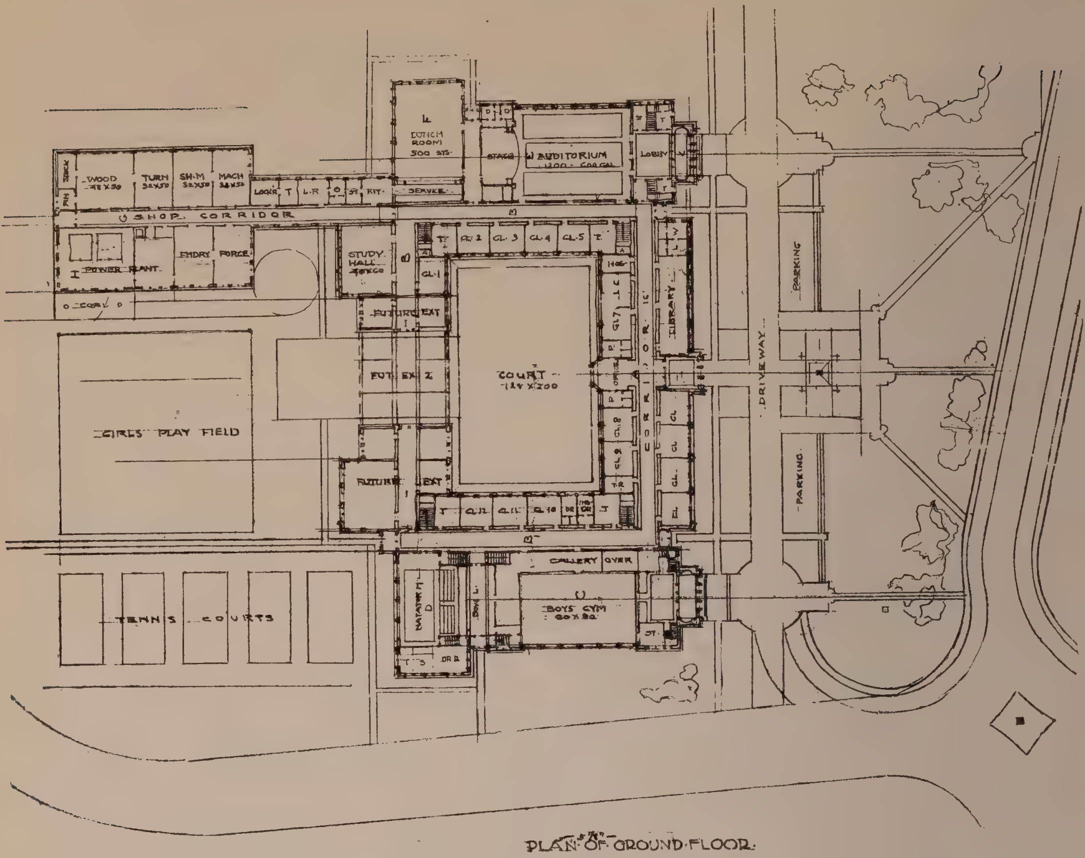


Fig. 4

Plan of Ground Floor

COMPOSITION STUDY OF ARRANGEMENT OF HIGH SCHOOL, RACINE, WISCONSIN

Perkins, Fellows & Hamilton, Architects

Methodist church of an Indiana town has recently promoted and built a large addition to its building as a community center which provides gymnasium, assembly hall, pool, etc., for general use. Housing these elemental features is a matter of expediency, however, and upon the institution which fulfills all the requirements most logically, will undoubtedly fall the honor of becoming the ultimate community center.

That the expanded school now seems to include all features of the ideal community building is indicative of an economic development of considerable importance. The free public school has come to stay and the scope of its activities is constantly widening—its buildings must exist by established law. With this in mind, how natural it is that an institution which is looked upon as so great an agency for good in the child's life is now made to provide for the father's and mother's recreation and educational advancement as well, thus centering the family and community interests.

In studying the illustrations, it is evident that definite economic causes are responsible for the planning of schools as our typical community center buildings. Park buildings will remain for several years, but their uses are coming nearer and nearer to that of the expanded school.

Compare, for instance, the Hamlin

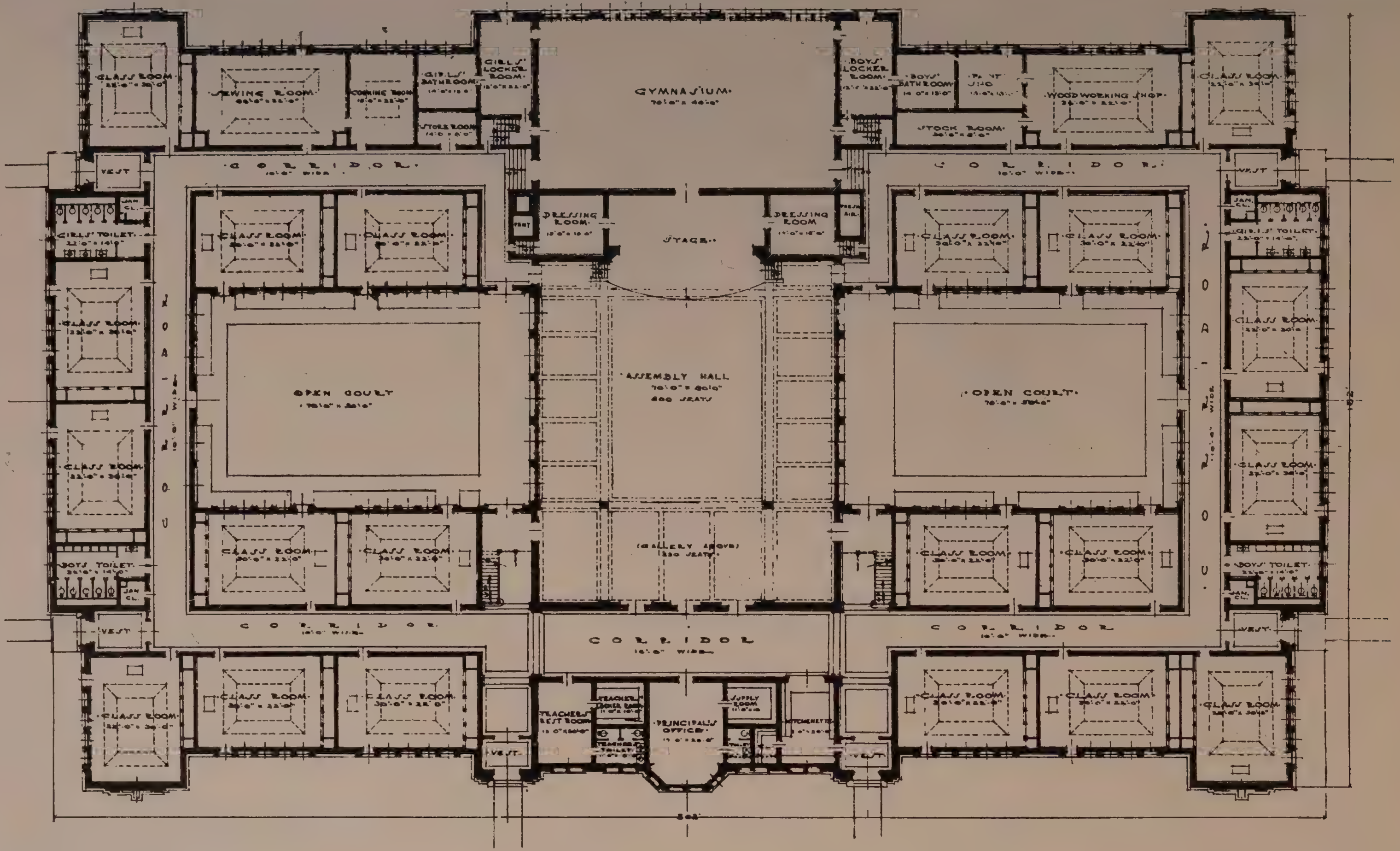


Fig. 5
Main Floor Plan
SKOKIE SCHOOL, WINNETKA, ILLINOIS
Perkins, Fellows & Hamilton, Architects

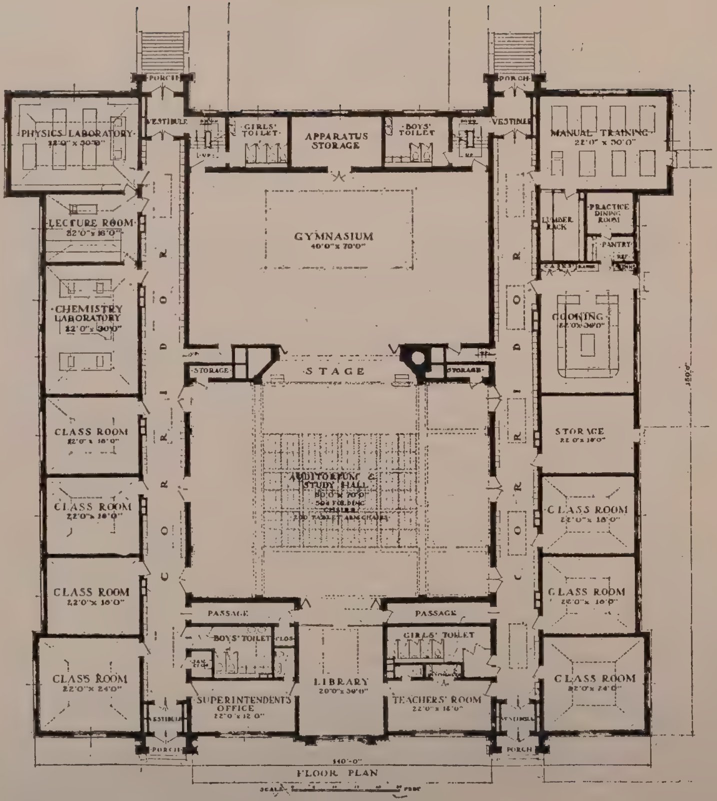


Fig. 6

HIGH SCHOOL, DANVILLE, KENTUCKY

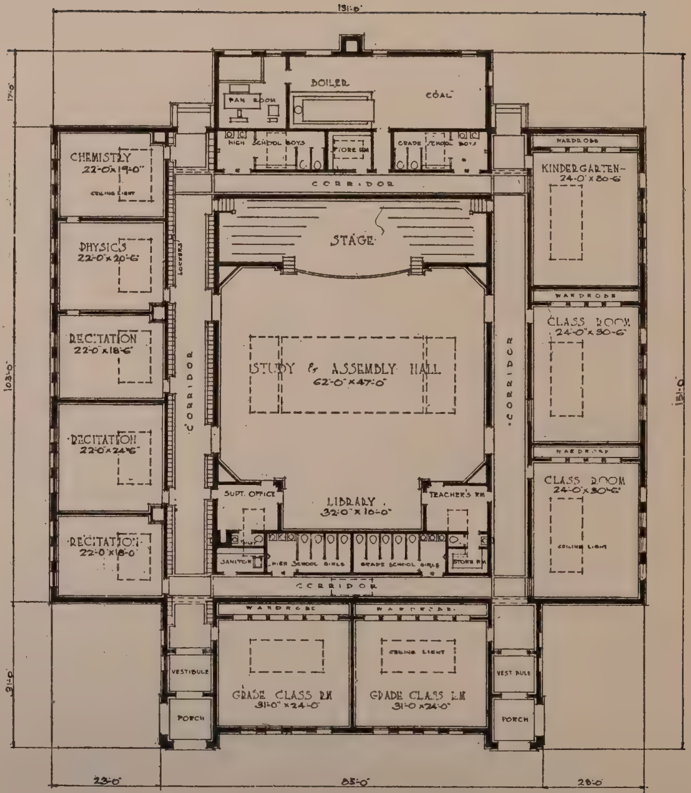


Fig. 7

HOLLY HIGH AND ELEMENTARY SCHOOL, HOLLY, MICHIGAN

Perkins, Fellows & Hamilton, Architects

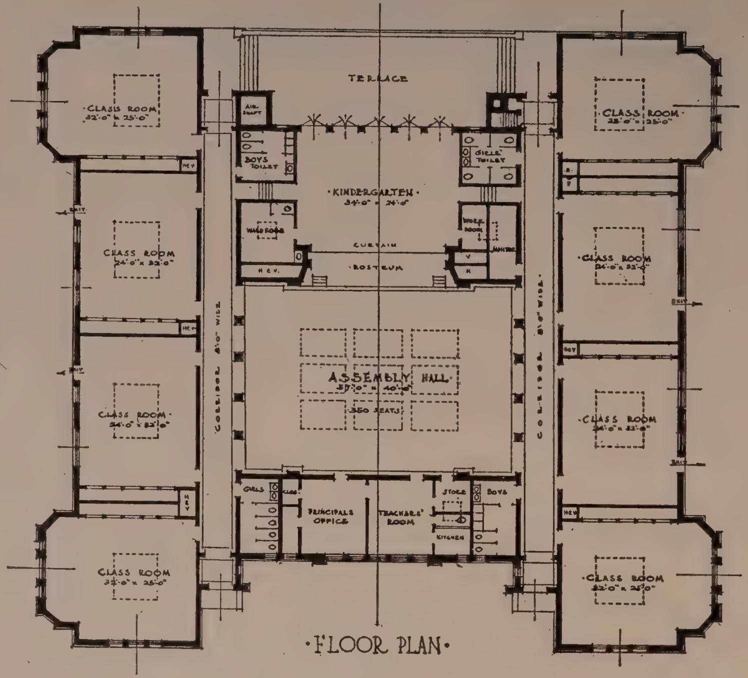

TERRACE
CLASS ROOM 32'-0" x 25'-0"
CLASS ROOM 24'-0" x 32'-0"
CLASS ROOM 24'-0" x 32'-0"
CLASS ROOM 32'-0" x 25'-0"
CLASS ROOM 25'-0" x 25'-0"
CLASS ROOM 24'-0" x 32'-0"
CLASS ROOM 24'-0" x 32'-0"
CLASS ROOM 32'-0" x 25'-0"
AIR SHAFT
BOYS TOILET
GIRLS TOILET
KINDERGARTEN 34'-0" x 24'-0"
WARDROBE
CURTAIN
ROSTRUM
ASSEMBLY HALL 37'-0" x 40'-0"
350 SEATS
CORRIDOR 8'-0" WIDE
CORRIDOR 8'-0" WIDE
GIRLS
PRINCIPALS OFFICE
TEACHERS' ROOM
STORE
BOYS
KITCHEN
JANITOR
EXIT
·FLOOR PLAN·

Fig. 8

SCHOOL BUILDING, DISTRICT 75, EVANSTON, ILLINOIS

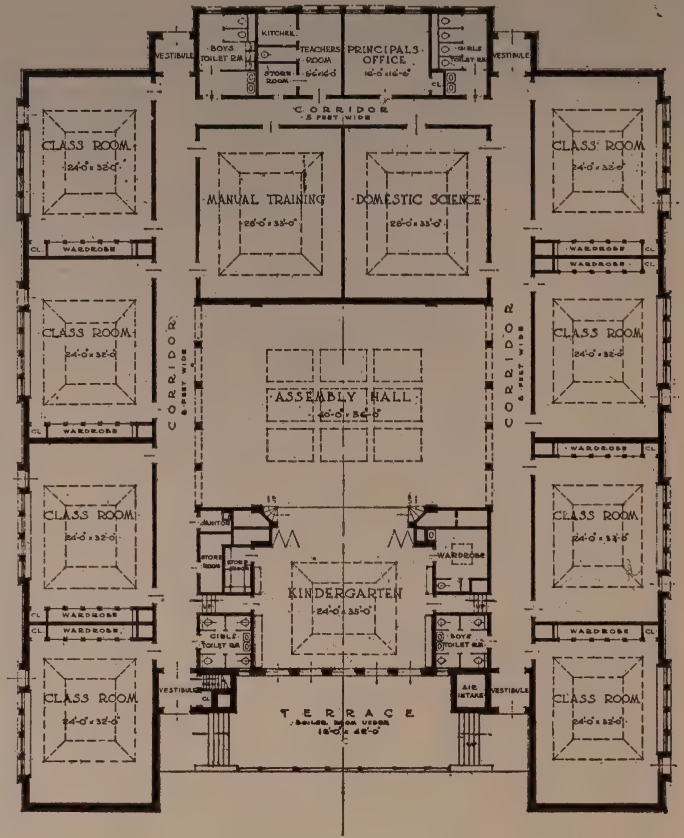


Fig. 9

HUBBARD WOODS SCHOOL, WINNETKA, ILLINOIS

Perkins, Fellows & Hamilton, Architects

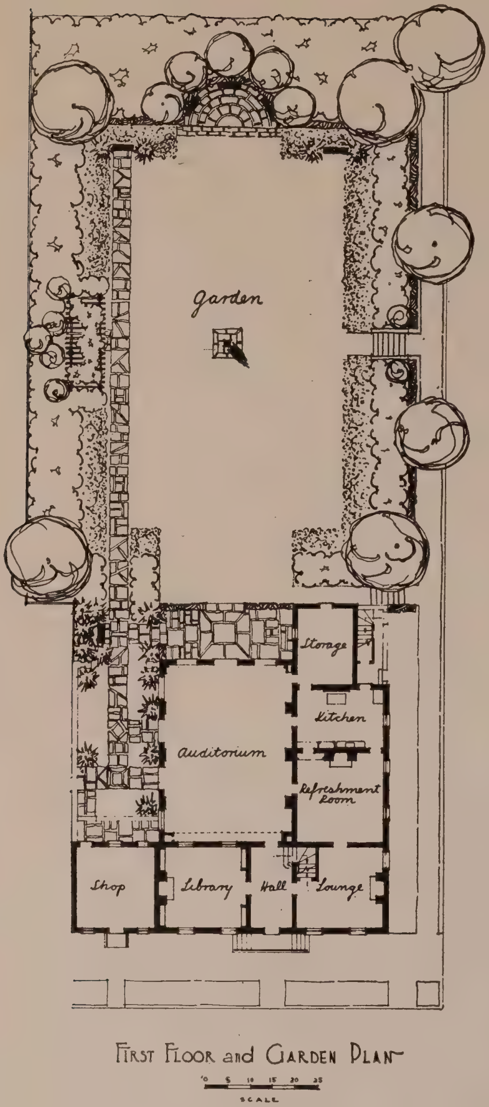


Fig. 10
BROWN-PUSEY HOUSE, ELIZABETHTOWN, KENTUCKY
Lincoln Norcott Hall, Architect

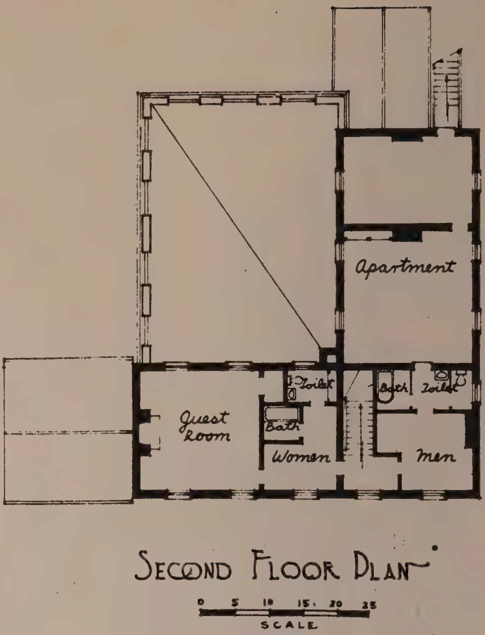


Fig. 10a
BROWN-PUSEY HOUSE, ELIZABETHTOWN, KENTUCKY
Lincoln Norcott Hall, Architect

Park recreation center with Manitowoc High School, Figures 1 and 2. There is no public need met at Hamlin Park that is not also provided for at Manitowoc. A recreation center such as Hamlin Park would need an extensive equipment of class rooms, laboratories, etc., to make it a modern school plant, but Manitowoc needs nothing but a carefully organized plan of activity to become a useful recreational and educational center for the whole community.

The outdoor features of both Seward (Fig. 13) and Hamlin Parks are more extensive, perhaps, than any found in an expanded school today and the indoor features smaller, but a study of the two plans in connection with Manitowoc and Evanston High Schools is a convincing argument in favor of the high school.

Evanston High School (Fig. 3) includes all recreational features both indoors and out, besides an elaborate modern equipment for school activities. Its site has been chosen with a view to its becoming frankly a community center, for the district is not built up and there are no community buildings within a considerable distance. The arrangement of the plan is such that free use can be made of the building for many functions at the same time without conflict, or without disturbing any needs of the school organization by reason of some structural obstacle. What has been said of

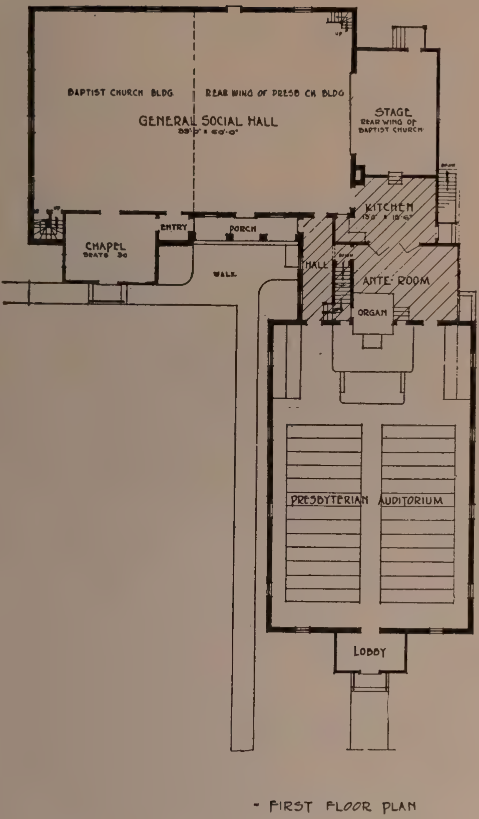


Fig. 11
UNION CHURCH, QUINCY, MICHIGAN
Taylor & Salisbury, Architects

the Evanston plan applies equally to Racine (Fig. 4) and Manitowoc.

Referring again to our reference program of community demands, it is evident that the Skokie School at Winnetka (Fig. 5) omits only swimming; Danville High School (Fig. 6) the same; and Holly High School, Hubbard Woods, at Winnetka, Lincolnwood at Evanston (Figs. 7, 8 and 9), omit the gymnasium as well. But they are much better adapted to becoming community centers than schools built a score of years ago. Even the most simple plan provides an assembly room with stage.

It has been most interesting to watch development of the community idea of recreation and social betterment in smaller communities and it is not surprising to find that the same elemental demand is prevalent here as in urban districts. It is met more or less adequately in antiquated buildings; frequently depending upon some philanthropic townsman or wandering native son who comes to the rescue. In these localities there is often a gymnasium missing, or a swimming pool, a suitable assembly hall or a library, but the demand is insistent and sooner or later will be met. Brown-Pusey House (Fig. 10 and 10a), in Elizabethtown, Ky., a town of three thousand, provides an adequate building for its purpose. From an interesting background as a pre-Civil War inn, it was restored, enlarged and presented to the town by a descendant of the original owner, a fact which may contain a suggestion for disposing of many a delightful old landmark that has otherwise ceased functioning.

In this case, the auditorium and garden were added and a suite of rooms provided for a caretaker on the second floor, an element of special importance in smaller communities where the question of operating expense becomes a problem, and desirable in settlement houses where the staff of attendants must be in constant supervision. For buildings of the Brown-Pusey type, a resident caretaker acts as janitor, answers telephone calls, arranges for letting the rooms and helps to make the buildings more useful generally. In Elizabethtown and other smaller cities, ownership of the community house rests in the municipality and its control in a board of ex-officio and appointive members chosen from a number of civic clubs and other institutions.

Still another phase of the village community house development is found in the construction activity of federated churches. Union Church at Quincy, Mich., provides an interesting example. Although the building is owned by the church corporation, subscriptions for its construction were made by the public and general use of the building will be afforded village school teams and other civic bodies. The plan (Fig. 11) is simple and consists merely of a large social

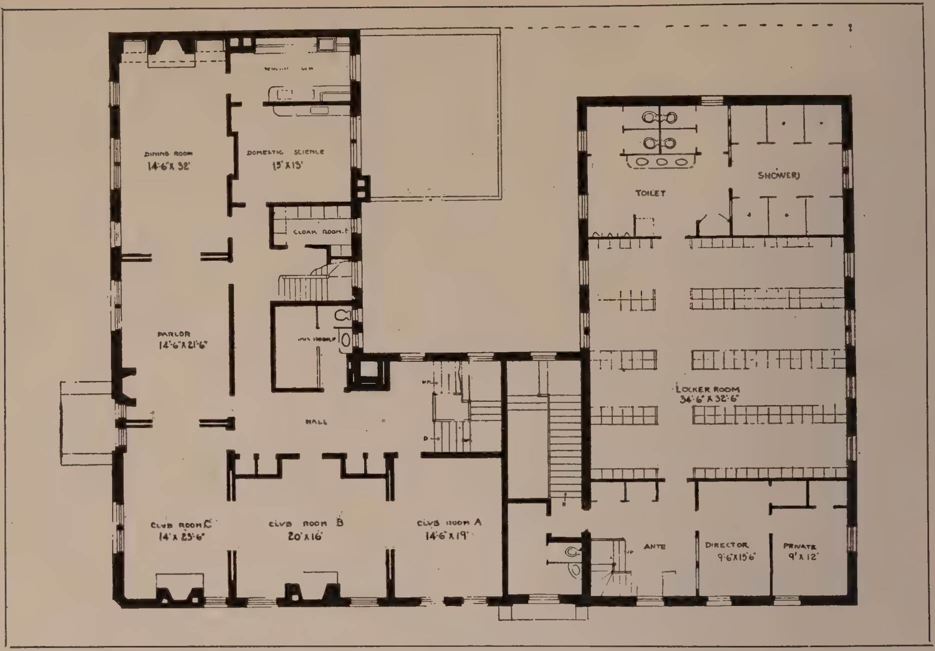


Fig. 12
Second Floor Plan

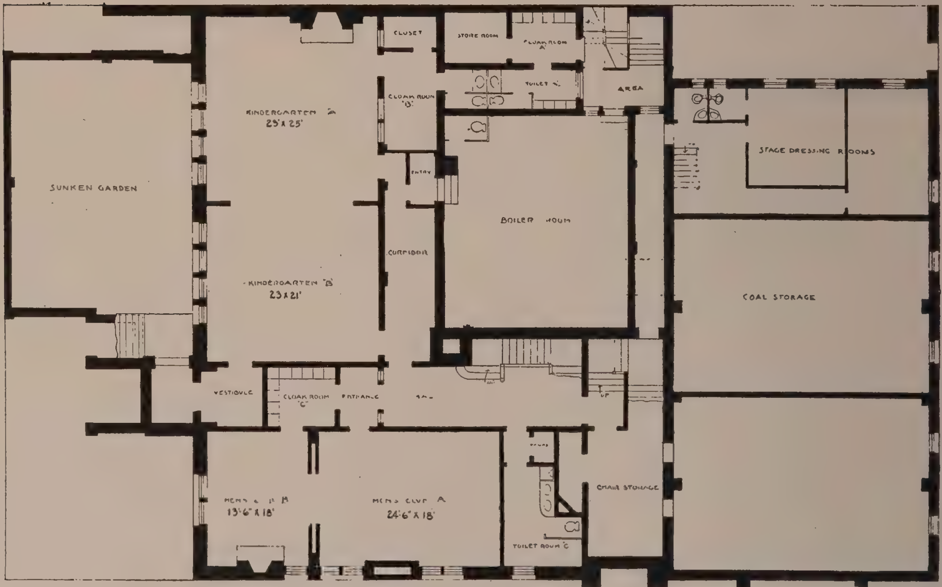


Fig. 12a
Ground Floor Plan
NORTHWESTERN UNIVERSITY SETTLEMENT, CHICAGO, ILLINOIS
Pond & Pond, Architects

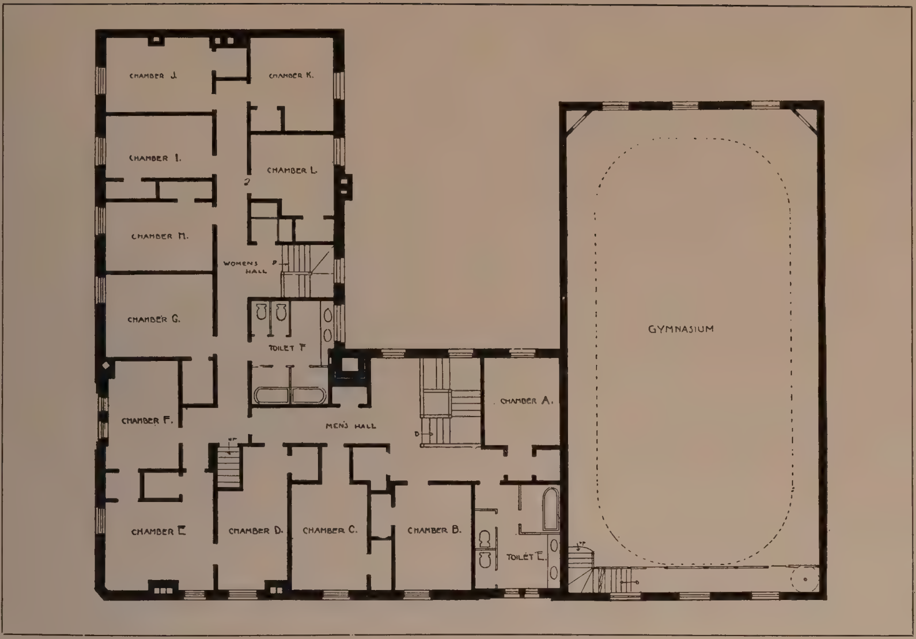


Fig. 12b
Third Floor Plan

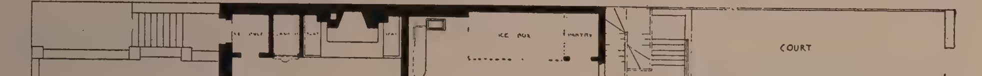


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Fig. 12c
First Floor Plan
NORTHWESTERN UNIVERSITY SETTLEMENT, CHICAGO, ILLINOIS
Pond & Pond, Architects

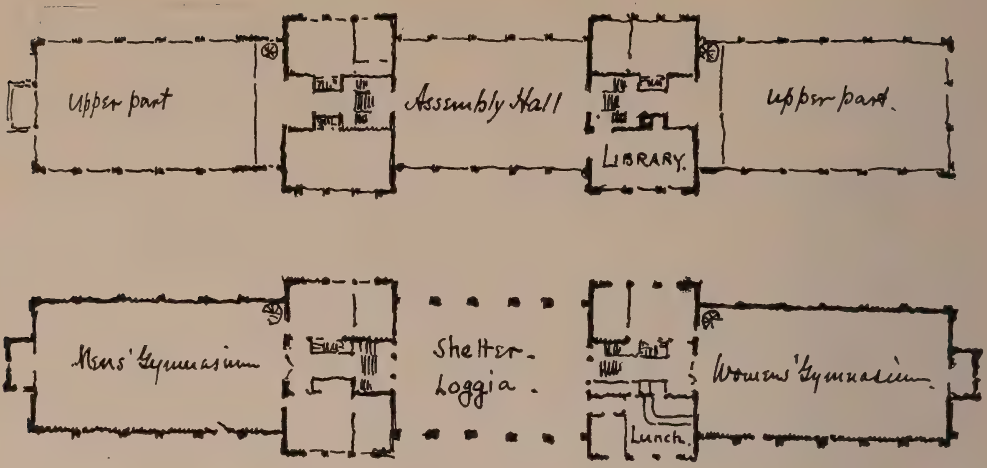
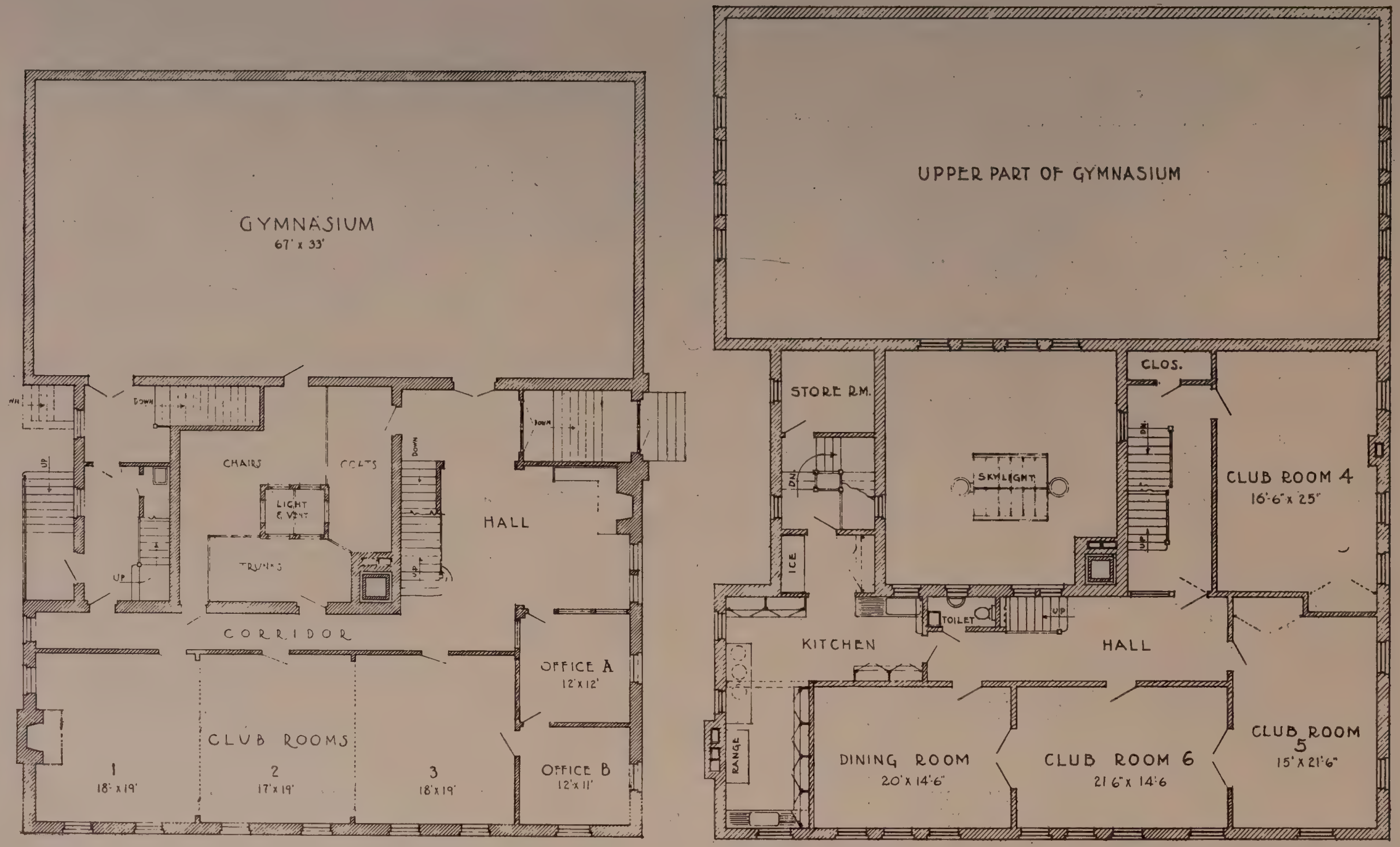


Fig. 13
SEWARD PARK, ILLINOIS
Perkins, Fellows & Hamilton, Architects

hall with balcony, suitable for assemblies or gymnasium. Showers are in the basement. With ample kitchens, service rooms and stage, every local need can be cared for, however large the gathering.

The deliberate placing of "social settlements" in localities where they are most needed, has offered a slightly different problem to the architect, for besides the educational, recreational and social features, living quarters for the attendants must be provided. In general, the plans have assumed the club aspect, and fulfill nearly all requirements in the reference program. Northwestern University Settlement (Figs. 12, 12a, b, c) lacks only a swimming pool. Its educational facilities are somewhat limited, when compared with the equipment of modern schools, but as an argument for a plan-type built upon the reference program, it is complete. Gads Hill (Figs. 14 and 14a) is more simple and several features are omitted but it, too, is no less convincing.

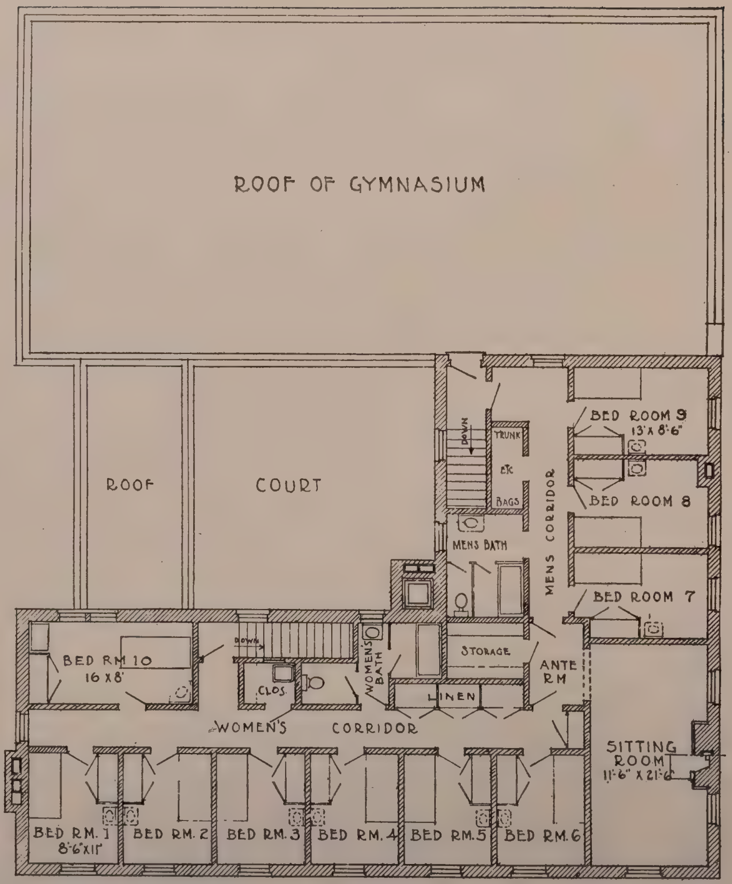
It will thus be seen that the items mentioned as parts of community buildings are generally included in the high school. The high school has come to be the model community center, where its plan is comprehensive; and as the functions of boards of education are gradually increased to take over those duties now performed by park boards and voluntary community center organizations, the use of them appears to be general. For the reason that the school is democratic in support and management, it is reasonable to assume that its position and rank will be, as we have frequently stated, the dominating model community building.



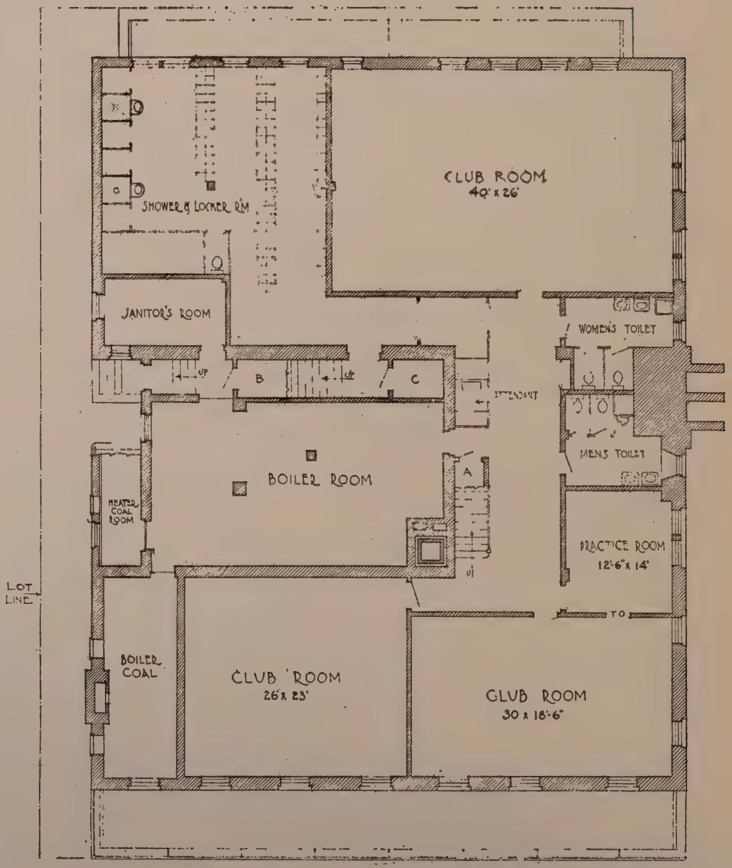
First Floor Plan

Second Floor Plan

Fig. 14
GADS HILL SETTLEMENT
Pond & Pond, Architects



Third Floor Plan



Basement Plan

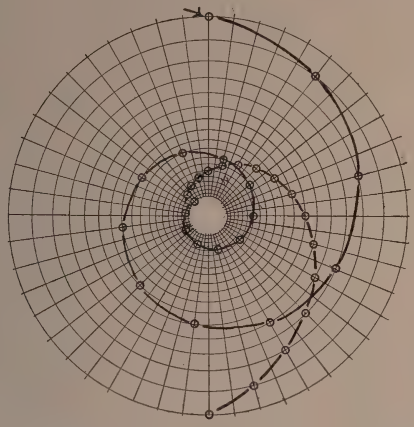
GADS HILL SETTLEMENT
Pond & Pond, Architects

A DISSERTATION *on* DYNAMIC SYMMETRY

By

Claude Bragdon, F.A.I.A.

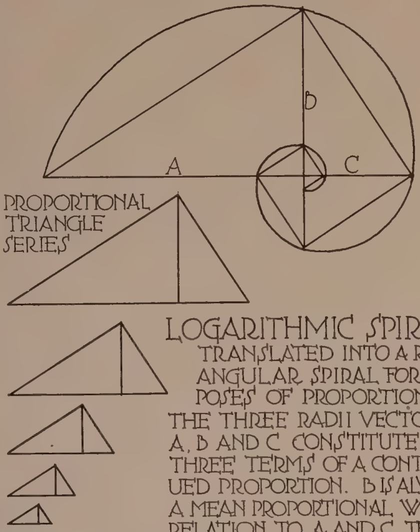
A GREAT DEAL has been said and written regarding the theories of proportion developed by the late Jay Hambidge, and named by him Dynamic Symmetry. But in the main these discussions have not served to clarify Mr. Hambidge's own presentation of the subject, which appears to be far from clear to the average lay mind. This may be attributed to the fact that he was himself too "near" his subject, and failed to dramatize the intellectual predicament of a person totally unskilled in mathematics. At all events the phrase most often heard on the lips of artists, when Dynamic Symmetry is mentioned, is: "I wish I knew more about it, but I haven't a mathematical mind." It is hoped that this essay and the accompanying drawings, prepared at the request of the editor of THE ARCHITECTURAL RECORD, may serve the useful purpose of making Mr. Hambridge's ideas more widely known and better understood.



A METHOD FOR LAYING OUT A LOGARITHMIC SPIRAL

DIVIDE A CIRCLE INTO A MESHWORK OF SQUARES FORMED BY CONCENTRIC CIRCLES AND EQUALLY SPACED RADII—ALL LINES DRAWN THROUGH THE INTERSECTIONS WILL BE LOGARITHMIC SPIRALS IF DONE IN SOME CONSTANT MANNER

ILLUSTRATION 1

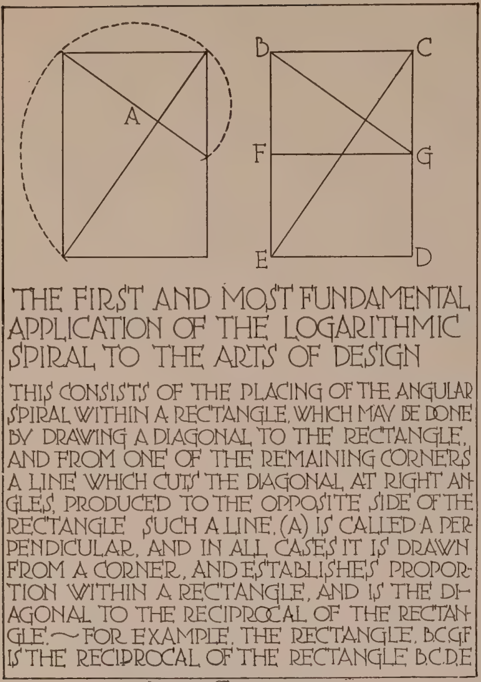


LOGARITHMIC SPIRAL TRANSLATED INTO A RECTANGULAR SPIRAL FOR PURPOSES OF PROPORTION. THE THREE RADII VECTORS, A, B AND C CONSTITUTE THE THREE TERMS OF A CONTINUED PROPORTION. B IS ALWAYS A MEAN PROPORTIONAL WITH RELATION TO A AND C, THAT IS, A IS TO B AS B IS TO C, AND ACCORDING TO THE RULE OF THREE, THE PRODUCT OF THE EXTREMES, A AND C, IS EQUAL TO THE SQUARE OF THE MEAN, B. ($A \times C = B \times B$, OR B^2)

ILLUSTRATION 2

Pattern in space, whatever its nature, submits itself to some sort of geometrical synopsis, is susceptible of being reduced to terms of number, the "universal solvent" of all forms whatsoever. But for beauty and harmony in the arts of design there must be system and selection—some governing principle—in the same way that music (the art towards which all of the other arts are said to aspire) obeys so called laws of harmony, which are essentially numerical.

Dynamic Symmetry is a theory and



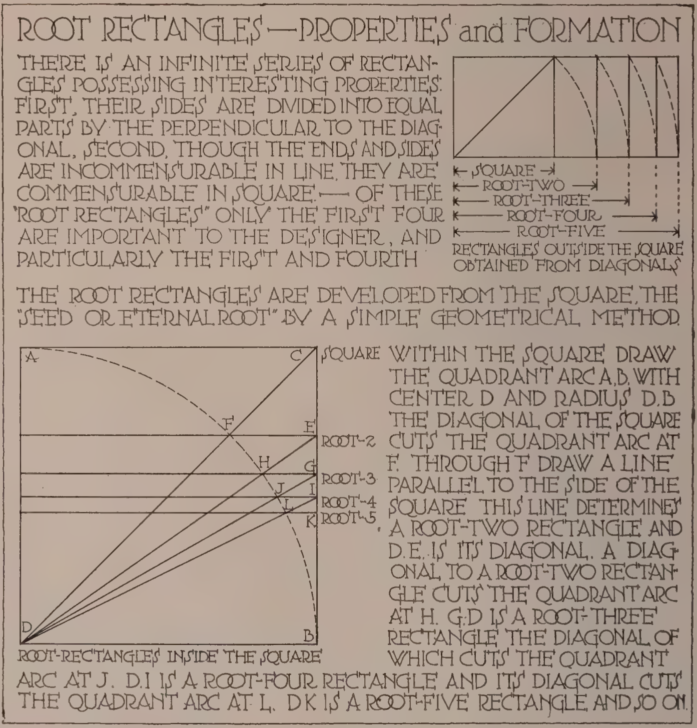
THE FIRST AND MOST FUNDAMENTAL APPLICATION OF THE LOGARITHMIC SPIRAL TO THE ARTS OF DESIGN

THIS CONSISTS OF THE PLACING OF THE ANGULAR SPIRAL WITHIN A RECTANGLE, WHICH MAY BE DONE BY DRAWING A DIAGONAL TO THE RECTANGLE, AND FROM ONE OF THE REMAINING CORNERS A LINE WHICH CUTS THE DIAGONAL AT RIGHT ANGLES, PRODUCED TO THE OPPOSITE SIDE OF THE RECTANGLE. SUCH A LINE, (A) IS CALLED A PERPENDICULAR, AND IN ALL CASES IT IS DRAWN FROM A CORNER, AND ESTABLISHES PROPORTION WITHIN A RECTANGLE, AND IS THE DIAGONAL TO THE RECIPROCAL OF THE RECTANGLE.—FOR EXAMPLE, THE RECTANGLE, BCGF IS THE RECIPROCAL OF THE RECTANGLE BCDE

ILLUSTRATION 3

ment of this order of mathematical relations was less a discovery than a recovery. In his opinion the ancient Egyptians were under the necessity of continually re-surveying their land by reason of the annual inundation of the Nile valley, and they early discovered a practicable and simple way of establishing rectangles by rope stretching. Then, through the power which the right angle gives in the definition of ratio relationships, this method developed naturally into a system of proportion based upon areas whose mutual relations were capable of being expressed by quantitatively small numbers. The Greeks obtained this knowledge from Egypt, and aided by their Euclidian geometry they organized it into canons of proportion which they applied to all of their æsthetic problems, from the defining of the shape of a vase to the construction of a temple. Mr. Hambidge believed that this knowledge—or, more strictly, the application of it—thereafter vanished from the memory of mankind, and that its loss canon of proportion related somewhat to the arts of space as are the laws of musical harmony to music. There are other systems, but it differs from them in this: it is not based on commensurate units whose measuring rod, so to speak, is the *line*, but it is a proportioning of *areas*, related to one another in a manner which is both subtle and simple—in what may indeed be called a *vital* way, because so in accord with certain observed phenomena of natural growth.

Mr. Hambidge was firm in the belief that his method of correlating the elements of a design into organic unity through the establish-



ROOT RECTANGLES—PROPERTIES and FORMATION

THERE IS AN INFINITE SERIES OF RECTANGLES POSSESSING INTERESTING PROPERTIES: FIRST, THEIR SIDES ARE DIVIDED INTO EQUAL PARTS BY THE PERPENDICULAR TO THE DIAGONAL, SECOND, THOUGH THE ENDS AND SIDES ARE INCOMMENSURABLE IN LINE, THEY ARE COMMENSURABLE IN SQUARE.— OF THESE "ROOT RECTANGLES" ONLY THE FIRST FOUR ARE IMPORTANT TO THE DESIGNER, AND PARTICULARLY THE FIRST AND FOURTH

RECTANGLES OUTSIDE THE SQUARE OBTAINED FROM DIAGONALS

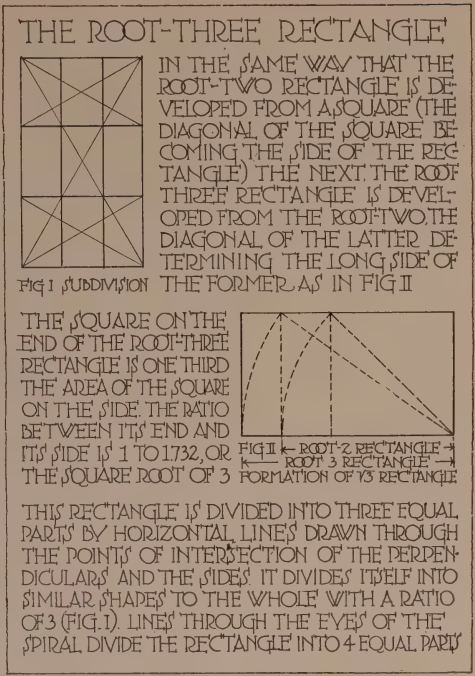
THE ROOT RECTANGLES ARE DEVELOPED FROM THE SQUARE, THE "SEED OR ETERNAL ROOT" BY A SIMPLE GEOMETRICAL METHOD

ROOT-RECTANGLES INSIDE THE SQUARE

WITHIN THE SQUARE DRAW THE QUADRANT ARC A.B. WITH CENTER D AND RADIUS D.B THE DIAGONAL OF THE SQUARE CUTS THE QUADRANT ARC AT F. THROUGH F DRAW A LINE PARALLEL TO THE SIDE OF THE SQUARE. THIS LINE DETERMINES A ROOT-TWO RECTANGLE AND D.E. IS ITS DIAGONAL. A DIAGONAL TO A ROOT-TWO RECTANGLE CUTS THE QUADRANT ARC AT H. G.D IS A ROOT-THREE RECTANGLE THE DIAGONAL OF WHICH CUTS THE QUADRANT ARC AT J. D.I IS A ROOT-FOUR RECTANGLE AND ITS DIAGONAL CUTS THE QUADRANT ARC AT L. DK IS A ROOT-FIVE RECTANGLE AND SO ON.

ILLUSTRATION 4

accounts, in a measure, for the anæmia of art, a robust æsthetic being impossible without this knowledge.



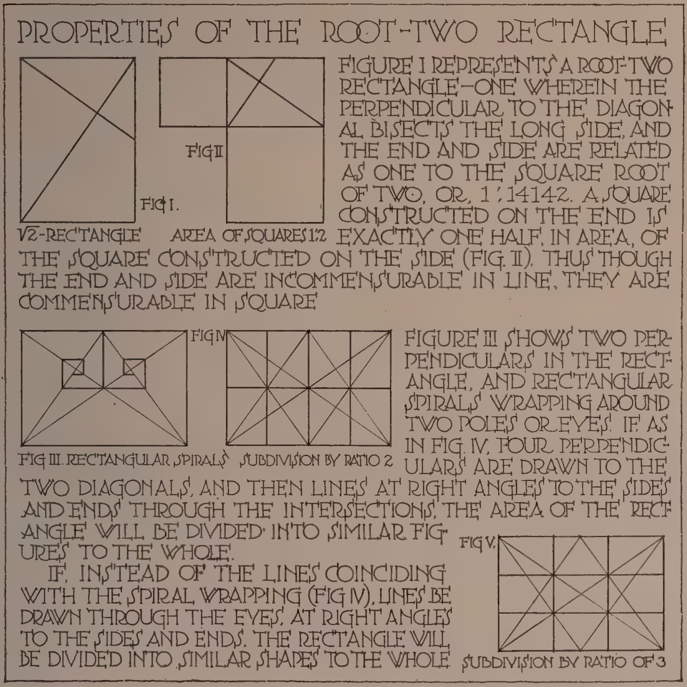
THE ROOT-THREE RECTANGLE

IN THE SAME WAY THAT THE ROOT-TWO RECTANGLE IS DEVELOPED FROM A SQUARE (THE DIAGONAL OF THE SQUARE BECOMING THE SIDE OF THE RECTANGLE) THE NEXT, THE ROOT-THREE RECTANGLE IS DEVELOPED FROM THE ROOT-TWO, THE DIAGONAL OF THE LATTER DETERMINING THE LONG SIDE OF THE FORMER AS IN FIG II

THE SQUARE ON THE END OF THE ROOT-THREE RECTANGLE IS ONE THIRD THE AREA OF THE SQUARE ON THE SIDE. THE RATIO BETWEEN ITS END AND ITS SIDE IS 1 TO 1.732, OR THE SQUARE ROOT OF 3

THIS RECTANGLE IS DIVIDED INTO THREE EQUAL PARTS BY HORIZONTAL LINES DRAWN THROUGH THE POINTS OF INTERSECTION OF THE PERPENDICULARS AND THE SIDES. IT DIVIDES ITSELF INTO SIMILAR SHAPES TO THE WHOLE WITH A RATIO OF 3 (FIG. 1). LINES THROUGH THE EYES OF THE SPIRAL DIVIDE THE RECTANGLE INTO 4 EQUAL PARTS

ILLUSTRATION 6



PROPERTIES OF THE ROOT-TWO RECTANGLE

FIGURE I REPRESENTS A ROOT-TWO RECTANGLE—ONE WHEREIN THE PERPENDICULAR TO THE DIAGONAL BISECTS THE LONG SIDE, AND THE END AND SIDE ARE RELATED AS ONE TO THE SQUARE ROOT OF TWO, OR, 1 : 1.4142. A SQUARE CONSTRUCTED ON THE END IS EXACTLY ONE HALF, IN AREA, OF THE SQUARE CONSTRUCTED ON THE SIDE (FIG. II). THUS THOUGH THE END AND SIDE ARE INCOMMENSURABLE IN LINE, THEY ARE COMMENSURABLE IN SQUARE

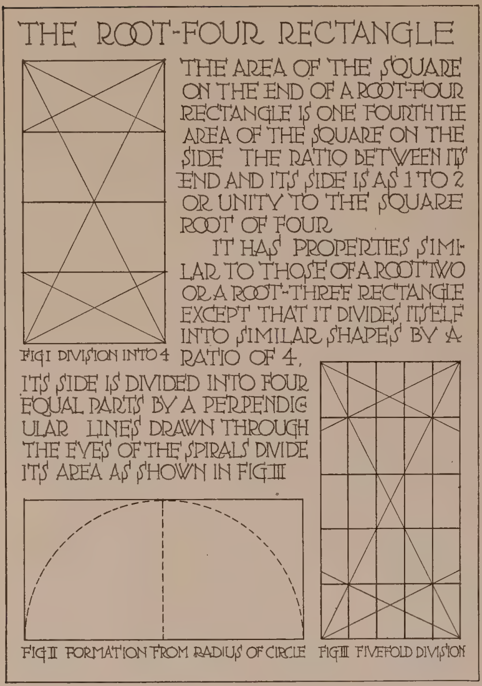
FIGURE III SHOWS TWO PERPENDICULARS IN THE RECTANGLE, AND RECTANGULAR SPIRALS WRAPPING AROUND TWO POLES OR EYES. IF AS IN FIG. IV, FOUR PERPENDICULARS ARE DRAWN TO THE TWO DIAGONALS, AND THEN LINES AT RIGHT ANGLES TO THE SIDES AND ENDS THROUGH THE INTERSECTIONS, THE AREA OF THE RECTANGLE WILL BE DIVIDED INTO SIMILAR FIGURES TO THE WHOLE.

IF, INSTEAD OF THE LINES COINCIDING WITH THE SPIRAL WRAPPING (FIG IV), LINES BE DRAWN THROUGH THE EYES, AT RIGHT ANGLES TO THE SIDES AND ENDS, THE RECTANGLE WILL BE DIVIDED INTO SIMILAR SHAPES TO THE WHOLE

ILLUSTRATION 5

I have no means of knowing how much of all this is true, but I hazard the opinion that Mr. Hambidge was inclined to press his theory too far. All of the works of man have the attribute of infinity, because he is himself an infinite being; all of his works are marvellously mathematical, because mathematics is the shuttle with which he weaves his every pattern on the loom of space. Accordingly, Mr. Hambidge found wherever he looked what he looked for, his system was elastic enough to make that possible. He undoubtedly established the presence of Dynamic Symmetry as a controlling factor in the arts of Egypt and Greece, and there are sound reasons for believing that it was, as he contended, a reasoned and a conscious thing. But we should never lose sight of the fact that "the artist follows the rules without knowing them," so that from the internal evidence afforded by any work of art, it is beyond human power to determine just what part of it is reasoned and conscious, and what was the product of the super-conscious, or cosmic self. This operates independently of the rational mind, and being of its very nature rhythmic, is numerical, so that subjectively every artist is a mathematician, whether he knows mathematics or not—the soul being, according to Pythagoras, "a self-moving number."

This fact — that a great deal of what Mr. Hambidge regards as a conscious following of set rules may have been unconscious — does not


THE ROOT-FOUR RECTANGLE

THE AREA OF THE SQUARE ON THE END OF A ROOT-FOUR RECTANGLE IS ONE FOURTH THE AREA OF THE SQUARE ON THE SIDE THE RATIO BETWEEN ITS END AND ITS SIDE IS AS 1 TO 2 OR UNITY TO THE SQUARE ROOT OF FOUR

IT HAS PROPERTIES SIMILAR TO THOSE OF A ROOT TWO OR A ROOT-THREE RECTANGLE EXCEPT THAT IT DIVIDES ITSELF INTO SIMILAR SHAPES BY A RATIO OF 4.

ITS SIDE IS DIVIDED INTO FOUR EQUAL PARTS BY A PERPENDICULAR LINES DRAWN THROUGH THE EYES OF THE SPIRALS DIVIDE ITS AREA AS SHOWN IN FIG III

FIG I DIVISION INTO 4
FIG II FORMATION FROM RADIUS OF CIRCLE
FIG III FIVEFOLD DIVISION

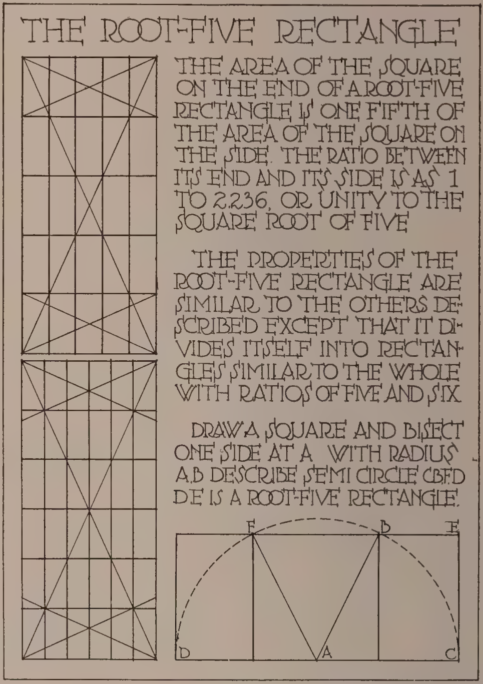
ILLUSTRATION 7

materially invalidate or even diminish the importance of his researches and discoveries. For he has convincingly demonstrated two things: first, that a great number of objects and arrangements in space in which we recognize the quality of beauty readily submit themselves to the particular order of mathematical analysis formulated in Dynamic Symmetry (particularly in the case of Greek and Egyptian architecture and sculpture); and second, that the application of these formulæ to new aesthetic problems, involving the element of design, operates as a unifying and an organizing force. This is equivalent to saying that the theory stands the pragmatic test—*it works.*

In my effort to discover what is truly significant and fundamental in aesthetics I early learned that the visible derives from the invisible, the complex from the simple, and that there exist certain archetypal forms which may be called *generic,* because to them entire orders of phenomena, superficially dissimilar and unrelated, can be referred.

It is not surprising therefore, that when Mr. Hambidge told me that he had derived his Dynamic Symmetry from the logarithmic spiral, I became a convert to his theory without a struggle, for the logarithmic spiral is of all geometrical forms the most ubiquitous, the one from which it is least possible to escape. Indeed, if modern astronomy is right in regarding nebulæ as stellar systems like our own, this spiral—the shape which certain nebulæ assume—may be the very pattern of the cosmos itself.

What is the logarithmic spiral? It has been called the "constant angle" spiral, and this describes it very well. For example, if the captain of a ship were to head her in a certain direction, at a given angle with the equator, his starting point, and keep right on, without changing his course, the path of the vessel on the surface of the world-sphere would be a logarithmic spiral. The course the water takes as it runs out of your bath tub describes this curve; also a coin, rolling on the floor. Close your hand, and your finger tips will have traced a logarithmic spiral, by reason of the proportionate


THE ROOT-FIVE RECTANGLE

THE AREA OF THE SQUARE ON THE END OF A ROOT-FIVE RECTANGLE IS ONE FIFTH OF THE AREA OF THE SQUARE ON THE SIDE. THE RATIO BETWEEN ITS END AND ITS SIDE IS AS 1 TO 2.236, OR UNITY TO THE SQUARE ROOT OF FIVE

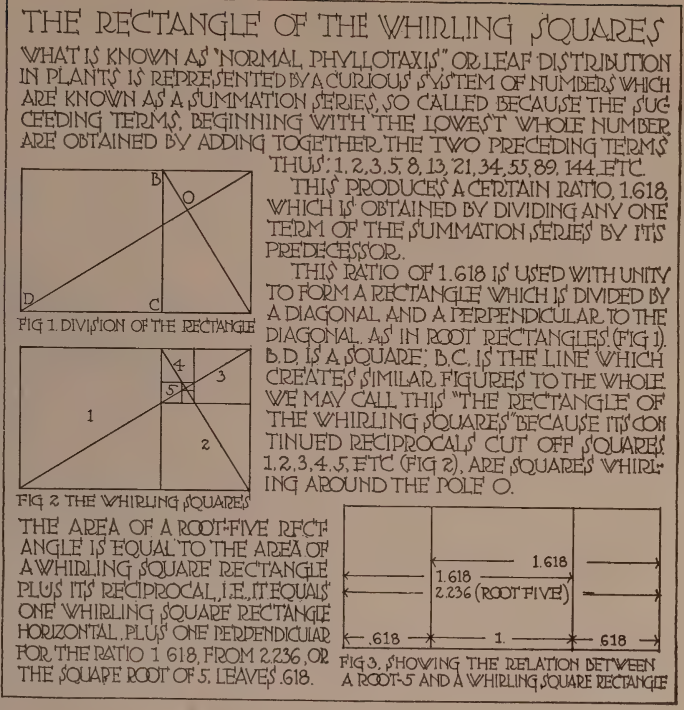
THE PROPERTIES OF THE ROOT-FIVE RECTANGLE ARE SIMILAR TO THE OTHERS DESCRIBED EXCEPT THAT IT DIVIDES ITSELF INTO RECTANGLES SIMILAR TO THE WHOLE WITH RATIOS OF FIVE AND SIX

DRAW A SQUARE AND BISECT ONE SIDE AT A WITH RADIUS AB DESCRIBE SEMI CIRCLE CBFD DE IS A ROOT-FIVE RECTANGLE.

ILLUSTRATION 8

diminishment in the articulations of the fingers. It is perhaps most clearly shown in the nautilus shell and the ram's horn, being the result of a process of continual proportionate growth. Conceive of it as a cone coiled upon itself—a shell is such a rolled-up cone.

Now this curve, the logarithmic spiral,* is one in which the law of proportion is inherent, but this is made evident, and available for aesthetic uses, only by the translation of the curved form into an angular one. This is easily achieved in the manner shown in Illustration 2. The resultant figure, suggestive of a Greek fret yields a double series of lines in continued proportion, each line bearing the same relation to its predecessor as the one following bears to it. Examine this figure with a view to its interesting mathematical relations. These are important because in a composition determined by Dynamic Symmetry it is their *felt presence* which gives an inner satisfaction, impossible to analyze or define, due doubtless to some obscure correlation between mathematical truth and formal beauty.



THE RECTANGLE OF THE WHIRLING SQUARES

WHAT IS KNOWN AS "NORMAL PHYLLOTAXIS," OR LEAF DISTRIBUTION IN PLANTS IS REPRESENTED BY A CURIOUS SYSTEM OF NUMBERS WHICH ARE KNOWN AS A SUMMATION SERIES, SO CALLED BECAUSE THE SUCCEEDING TERMS, BEGINNING WITH THE LOWEST WHOLE NUMBER ARE OBTAINED BY ADDING TOGETHER THE TWO PRECEDING TERMS THUS: 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ETC.

THIS PRODUCES A CERTAIN RATIO, 1.618, WHICH IS OBTAINED BY DIVIDING ANY ONE TERM OF THE SUMMATION SERIES BY ITS PREDECESSOR.

THIS RATIO OF 1.618 IS USED WITH UNITY TO FORM A RECTANGLE WHICH IS DIVIDED BY A DIAGONAL AND A PERPENDICULAR TO THE DIAGONAL, AS IN ROOT RECTANGLES (FIG 1). B.D. IS A SQUARE; B.C. IS THE LINE WHICH CREATES SIMILAR FIGURES TO THE WHOLE. WE MAY CALL THIS "THE RECTANGLE OF THE WHIRLING SQUARES" BECAUSE ITS CONTINUED RECIPROCALS CUT OFF SQUARES. 1, 2, 3, 4, 5, ETC (FIG 2), ARE SQUARES WHIRLING AROUND THE POLE O.

FIG 1. DIVISION OF THE RECTANGLE

FIG 2 THE WHIRLING SQUARES

THE AREA OF A ROOT-FIVE RECTANGLE IS EQUAL TO THE AREA OF A WHIRLING SQUARE RECTANGLE PLUS ITS RECIPROCAL, I.E., IT EQUALS ONE WHIRLING SQUARE RECTANGLE HORIZONTAL, PLUS ONE PERPENDICULAR FOR THE RATIO 1 618, FROM 2.236, OR THE SQUARE ROOT OF 5, LEAVES .618.

FIG 3, SHOWING THE RELATION BETWEEN A ROOT-5 AND A WHIRLING SQUARE RECTANGLE

ILLUSTRATION 9

This rectangular triangle and its perpendicular—a series of which constitute the figure under discussion—derived thus directly from the logarithmic spiral, is of Dynamic Symmetry the fundamental and fecundating form. Although rectangles possessing certain properties constitute the subject-matter of Dynamic Symmetry, it should be constantly borne in mind that the sides and diagonals of these rectangles, together with the perpendiculars to the diagonals, form rectangular triangles. These are the translation into angular form of Nature's most fundamental and ubiquitous curve. Mr. Hambidge's lack of sufficient insistence upon this fact is the reason for my insistence upon it here. Immersed in a forest of "root rectangles," "reciprocals" and "whirling squares," one is in danger of not seeing the wood for the trees. But with this admonition, we may now proceed to the consideration of the rectangles themselves.

The rectangles employed in Dynamic Symmetry are derived from the logarithmic spiral in the manner shown in

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*A simple and useful method of laying out a logarithmic spiral is shown in illustration 1. It is from Dr. A. H. Church's work, *The Relation of Phyllotaxis to Mechanical Laws,* and is as follows: "Describe a large circle, then draw with the same center, a series of concentric circles, making, with the radii, a meshwork of squares, as near as can be judged by the eye. In this circular network of squares, arranged in radial series, in geometrical progression, all lines which are drawn through the points of intersection in any constant manner are logarithmic spirals." Any spiral desired is described by connecting the selected points of intersection: as for example, every circle with every fifth radius, every third radius with every fifth circle, or by plotting any of the other numberless lines which respect this order of progression.

THE WHIRLING SQUARE RECTANGLE AND THE ROOT-FIVE RECTANGLE INSCRIBED WITHIN THE SQUARE

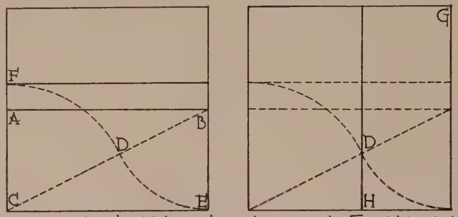


FIG 1 THE W.S. RECTANGLE FIG 2. THE √5 RECTANGLE

THE WHIRLING SQUARE RECTANGLE AND THE ROOT FIVE RECTANGLE ARE PLACED WITHIN THE SQUARE ACCORDING TO THE FOLLOWING METHOD

THE SQUARE IS FIRST BISECTED BY THE LINE A.B. TO OBTAIN A ROOT-FOUR RECTANGLE, OR TWO SQUARES. FROM THE DIAGONAL OF THIS RECTANGLE (C.B), SUBTRACT UNITY, OR B E TO DETERMINE THE POINT D C.D THEN ESTABLISHES THE SIDE OF THE WHIRLING SQUARE RECTANGLE F E (FIG 1)

A LINE DRAWN THROUGH THE POINT D PARALLEL TO A SIDE OF THE SQUARE DETERMINES THE ROOT-FIVE RECTANGLE G.H (FIG 2)

ILLUSTRATION 10

Illustration 3. Their development from the square is shown in Illustration 4. They are called "root" rectangles for the following reason: the lines which respectively represent the end and the side of such a rectangle are in general incommensurable with one another—"irrational" as it is called; but though they cannot be measured by the same *linear* unit, the square constructed on the end and that constructed on the side are commensurable *in area,* the square on the end being one-half, one-third, one-fourth and one-fifth of that on the side. Therefore the relation between the end and the side can be expressed as unity to the square root of two, of three, of four and of five—hence the expression a "root-two," "root-three," "root-four" and "root-five" rectangle. Such rectangles constitute an infinite series but Dynamic Symmetry does not make use of any beyond the fourth, the ratio between the side and end of which is as unity to the square root of five. Their properties may be studied in Illustrations 5, 6, 7 and 8.

All root rectangles have the following properties in common. The squares on their sides are commensurable with one another, being expressed by the ratios 1:2, 1:3, 1:4 and 1:5. The perpendicular to the diagonal is itself the diagonal to a reciprocal shape to the whole, which, repeated within the rectangle exhausts its area without a remainder. Lines drawn parallel to the sides of the rectangle through the intersections of the web of lines formed by the two diagonals and their perpendiculars sub-divide the area uniformly into similar shapes to the whole.

In addition to the four root-rectangles, Dynamic Symmetry makes use of another, the rectangle of the whirling squares [Illustration 9]. This is in a sense a derivative from the root-five rectangle, to which it is closely related—since the area of a root five rectangle is equal to the area of a whirling square rectangle plus its reciprocal. [Fig. 3, Illustration 9.] The peculiarity of the whirling square rectangle, from which it derives its name, consists in its division into squares,

OTHER WHIRLING SQUARE & ROOT-FIVE RECTANGLES WITHIN A SQUARE

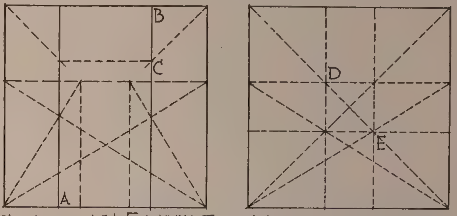


FIG 1 UPRIGHT √5 RECTANGLE FIG 2 4 OVERLAPPING W.S.RS

IN A WHIRLING SQUARE RECTANGLE INSCRIBED IN A SQUARE, IF LINES BE DRAWN THROUGH THE EYES AND PRODUCED TO THE OPPOSITE SIDE OF THE SQUARE, A ROOT-FIVE RECTANGLE IS CONSTRUCTED IN THE CENTER OF THE SQUARE—A.B. FIG. 1. AND IF THESE LINES BE MADE TO TERMINATE AT THEIR INTERSECTION WITH THE DIAGONALS OF THE SQUARE, THE WHIRLING SQUARE RECTANGLE A.C RESULTS

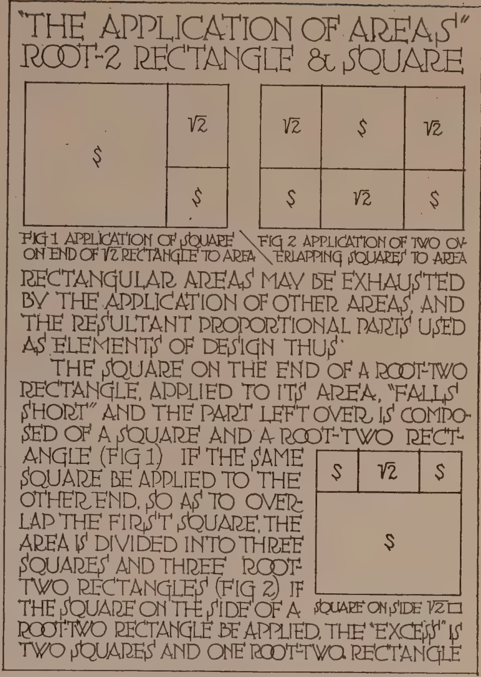
WHEN, AS IN FIG. 2, A WHIRLING SQUARE RECTANGLE IS IN A SQUARE, AND THE SIDES OF THE SMALL CENTRAL SQUARE D.E ARE PRODUCED TO THE SIDES OF THE LARGE SQUARE THE MAJOR SQUARE BECOMES A NEST OF SQUARES AND WHIRLING SQUARE RECTANGLES.

ILLUSTRATION 11

whirling, so to speak, around a pole which is the eye of the spiral. This is by reason of the fact that the continued reciprocals of the whirling square rectangle cut off squares. But the most interesting fact about this rectangle is that the ratio between its end and its side —1 : 1.618—is the ratio between any two adjoining terms of a converging summation series—so called because each succeeding term of the system is obtained by adding the two preceding terms. This ratio expresses the important fact in the growth of plants known as phyllotaxis, or leaf distribution. The significance of this is clear: if the whirling square rectangle and its subdivisions, representing this ratio, be used as a determining factor in design, certain laws and relations which are operative in nature, are carried by these means into art.

The most obvious and simple way to draw all the rectangles of Dynamic Symmetry is with a right angle and a decimally divided scale, preferably one divided into millimeters,* but this method, though convenient, is the one least calculated to bring out and fix in the memory the properties of the several rectangles and their relationship to one another. In order to master the principles of Dynamic Symmetry as well as its practice, a better way—at least in the beginning — is to develop the rectangles after a manner which will relate them to one another as part of an infinite series beginning with the square, having common properties and intricate inter-relations of the most interesting sort.

This is easily accomplished. The diagonal of each succeeding rectangle, starting with the square, determines the long side of the next: that is, the diagonal of a square, revolved downward until it coincides with the base, will form the long side of a root-two rectangle whose short side is the side of the square. The diagonal of the root-two rectangle, similarly revolved, yields the long side of the root-three rectangle, and so on. All this is indicated in the upper figure of Illustration 4, the lower one showing the method of developing the root-rectangles *inside* the square. The root-four rectangle, being exactly two squares, is established by a single semi-circular swing of the compasses, and there is a method of drawing a root-five rectangle which is only one degree less simple, and yields, at the same time, the whirling square rectangle. This is shown in Illustration 8. Another method of establishing these root-five and the whirling square rectangles within the square is shown in Illustration 10.



"THE APPLICATION OF AREAS"
ROOT-2 RECTANGLE & SQUARE

FIG 1 APPLICATION OF SQUARE ON END OF √2 RECTANGLE TO AREA

FIG 2 APPLICATION OF TWO OVERLAPPING SQUARES TO AREA

RECTANGULAR AREAS MAY BE EXHAUSTED BY THE APPLICATION OF OTHER AREAS, AND THE RESULTANT PROPORTIONAL PARTS USED AS ELEMENTS OF DESIGN THUS:

THE SQUARE ON THE END OF A ROOT-TWO RECTANGLE, APPLIED TO ITS AREA, "FALLS SHORT" AND THE PART LEFT OVER IS COMPOSED OF A SQUARE AND A ROOT-TWO RECTANGLE (FIG 1) IF THE SAME SQUARE BE APPLIED TO THE OTHER END, SO AS TO OVERLAP THE FIRST SQUARE, THE AREA IS DIVIDED INTO THREE SQUARES AND THREE ROOT-TWO RECTANGLES (FIG 2) IF THE SQUARE ON THE SIDE OF A ROOT-TWO RECTANGLE BE APPLIED, THE "EXCESS" IS TWO SQUARES AND ONE ROOT-TWO RECTANGLE

SQUARE ON SIDE √2 □

ILLUSTRATION 12

There are other rectangles used in Dynamic Symmetry, but they are in some sort resultants from those already enumerated and described, made by "subtracting" one from another, as it were, or by a process of combination. Such, for example, is the square-plus-a-root-five rectangle, which, according to Mr. Hambidge determined the proportions of the Parthenon and many other Greek designs. For a description of these derivative rectangles, and for the detailed application of Dynamic Symmetry to design, the interested reader is referred to Mr. Hambidge's books. The idea of that application is as follows:

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*The ratios between the ends and sides of the various rectangles are as follows: root-two, 1 : 1.4142; root-three, 1 : 1.732; root-four, 1 : 2; root-five, 1 : 2.236; whirling square, 1 : 1.618.

Design, in the last analysis, is purely a matter of space subdivision, and as such is all compounded of mathematical relations. If these relations are *orderly*, based on some law, and law-abiding, as opposed to the merely fortuitous and accidental, it makes for beauty. Now Dynamic Symmetry, which is a system of inter-related rectangles possessing common properties, and all referable to a single generic figure, based upon an important mathematical law, provides what might be called a *warp*—stretched threads on which it is possible to weave any design whatsoever; but this *woof*, or pattern, conforming, as it needs must, to a groundwork which is orderly and geometrical, will be subtly acted upon thereby, the mathematics will "show through," not as number—to the mind—but as beauty to the eye.

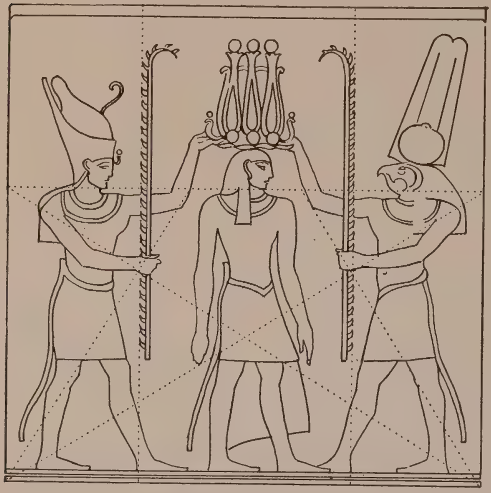


ILLUSTRATION 13
[*From Dynamic Symmetry; the Greek Vase, by Jay Hambidge.*]

Illustration 13, taken from Mr. Hambidge's book, *Dynamic Symmetry,* is an example. It represents a bas-relief from Egypt. A square is defined by bars cut out of the stone at the top and bottom of the composition, and its area is *dynamically* divided by means of a whirling square rectangle placed horizontally, and an upright root-five rectangle (established by drawing lines vertically through the eyes of the whirling square rectangle, and prolonging them until they meet the top and bottom lines of the square). The web of lines formed by the diagonals and perpendiculars of the whirling square rectangle and the vertical sides of the root-five rectangle coincides in a most ingenious way with the design, determining the main elements of the composition.

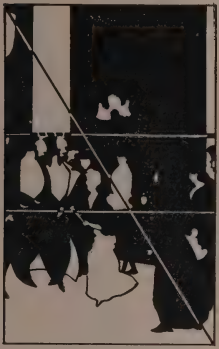
Now though the application of these principles is infinitely various, the general method of their application, once understood, is clear at a glance, so it is unnecessary to multiply examples. It is the theory, rather than the practice, with which this essay is concerned. It occurred to me, in casting about for a few more illustrations, that instead of taking these from *Dynamic Symmetry* or *The Diagonal* (a magazine devoted to the same order of research), it would be vastly more amusing to test the theory by applying it to the work of artists who used it not at all.

On the walls of my room are five drawings and prints which are there for no other reason than that they satisfy my sense of color and design. To what extent will they submit themselves to analysis along the lines of Dynamic Symmetry?

I select for my experiment a pen drawing by Aubrey Beardsley entitled *Lady Gold's Escort* [Illustration 14]; a Japanese color print by Hokusai representing a waterfall [Illustration 15]; and a water color sketch for a setting for *The Idle Inn* from the hand of Robert Edmund Jones [Illustration 16]. Now Beardsley and Hokusai could never have heard of Dynamic Symmetry, and though Jones probably has, that he did not consciously apply it to this particular drawing I am sure.

Is it not highly significant, therefore, that every one of these three drawings, chosen in this way, proves to be, in its main dimensions, one of the rectangles of Dynamic Symmetry, and that the subdivision of their areas by means of diagonals, perpendiculars and the like yields, in every case, a clearly traceable relation between this geometrical web and the lines and masses of the composition itself?

The Beardsley Drawing [Illustration 14] proves to be a whirling square rectangle; the square is repeated top and bottom, and the area included in the overlapping of the squares so clearly defined that given the clue, the geometry is apparent without the aid of the guiding lines. Into this area practically all of the interest of the drawing is concentrated—the heads and torsos of nine out of ten figures. One diagonal and its perpendicular is traceable as well.


"LADY GOLDS ESCORT" WHIRLING SQUARE RECTANGLE WITH REPEATING SQUARES. THEIR OVERLAPPING DEFINED BY THE HATS HEADS AND SHIRT-FRONTS OF THE FIGURES

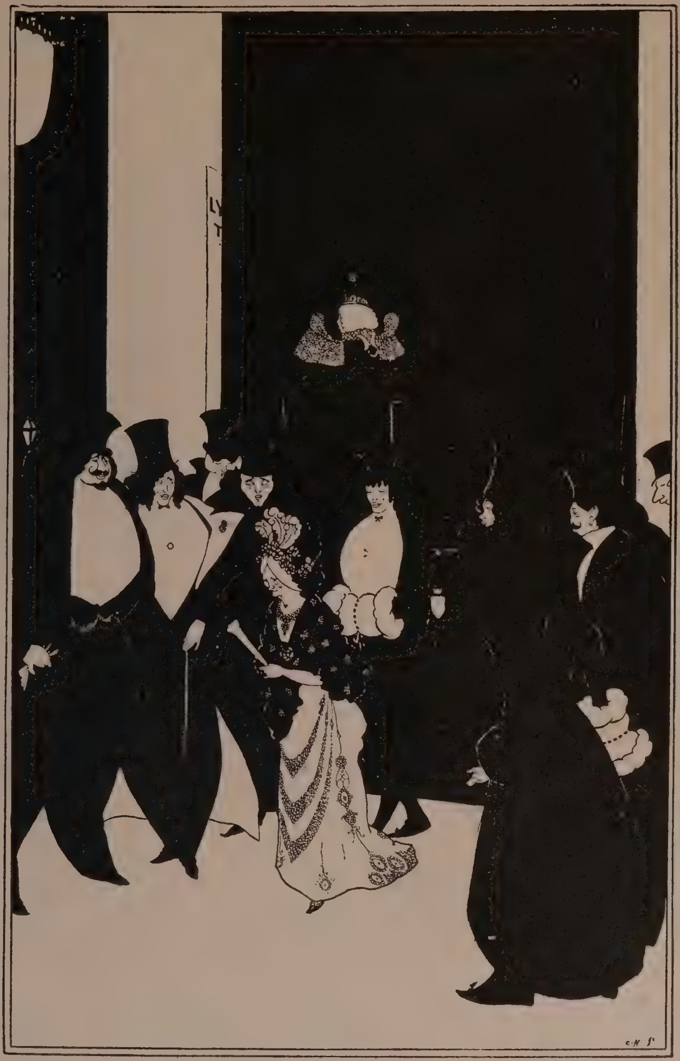


ILLUSTRATION 14

The Hokusai print [Illustration 15] is a root-two rectangle, with both diagonals well defined, particularly in the lower half of their length, by the alignment of the house roofs, and the central figure on the bridge—the one with a burden. The vertical line of the waterfall serves to define a root-five rectangle co-extensive in its length with the root-two.

The Idle Inn design [Illustration 16] is a double square, hence a root-four rectangle, the diagonal emphasized in the strongest manner by the lines of the gateway and fence, and even more by the obliquely directed cloud-forms against which the whole is defined. The intersecting perpendiculars to the diagonals, at the right of the picture, establish the projection of the building on that side as exactly as though consciously arrived at by these means, while a line drawn through the eye of the spiral on the left marks the upright to the sweep of the well.

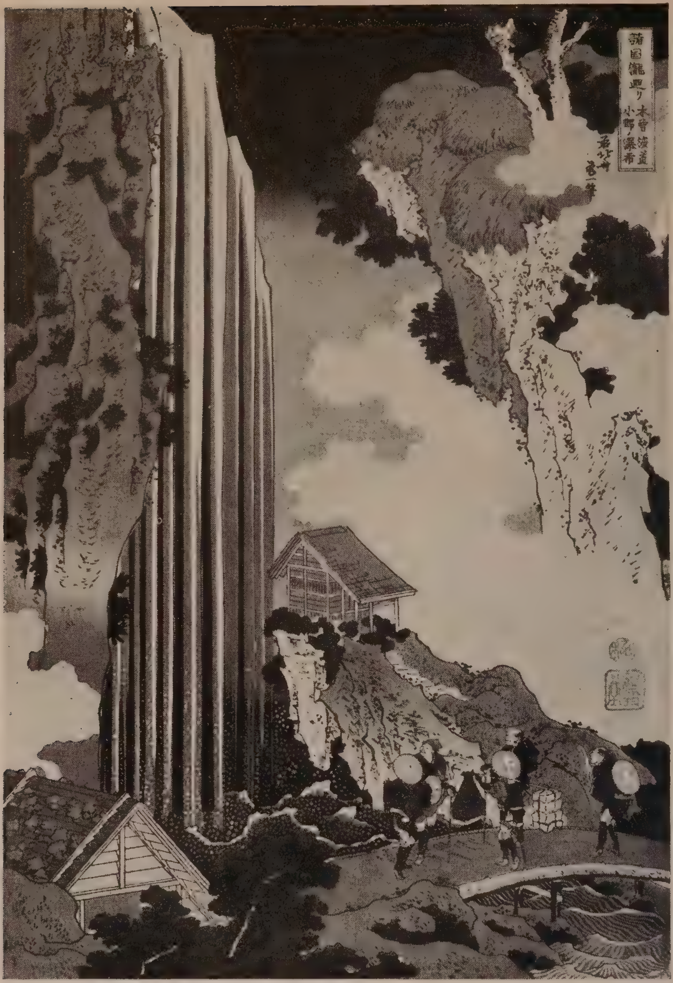
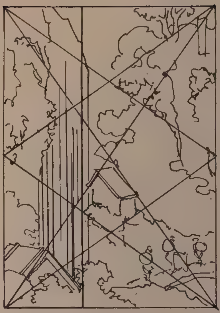

諸國瀧廻り
木曽海道 小野ノ瀑布
前北斎為一筆

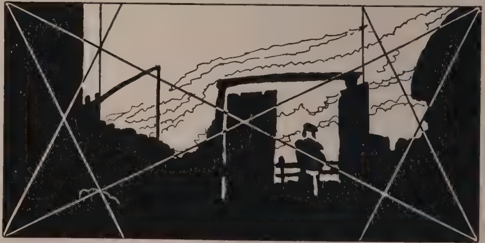
ILLUSTRATION 15



"THE WATERFALL"—A ROOT-TWO RECTANGLE THE DIAGONALS WELL DEFINED BY THE ROOFS OF THE HOUSES, ETC ALSO, A VERTICAL ROOT-FIVE RECTANGLE

The conclusion to be drawn from all this is expressed in the phrase already quoted: "The artist follows the rules without knowing them." Subjectively he is both arithmetician and geometer. The question then naturally arises: why *have* rules then, and what gain is there in knowing them? To this there is an effective answer suggested by a sister art. The natural born musician will instinctively obey the great generic laws which govern music, but this does not permit him safely to dispense with a knowledge of musical harmony, for without this knowledge he would do a deal of unnecessary fumbling around, and his ignorance might forever bar him from achieving certain things which he might not otherwise accomplish. Dynamic Symmetry is to the arts of space what the science of harmony is to music: in the creative field, it is of little value, but on the technical side—as an aid to expression—it is valuable.

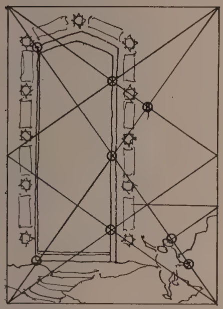
Let me attempt to demonstrate this by means of a final example. Suppose I have a conception for a setting for Lord Dunsany's one act play, *The Glittering Gate,* and I want to put my idea in the form of a drawing. The general image is perfectly clear in my mind, but this does not tell me just where, on the sheet, the great



"THE IDLE INN"—ROOT-FOUR RECTANGLE WITH DIAGONALS STRONGLY EMPHASIZED AND FLANKING MASS ON RIGHT COINCIDENT WITH PERPENDICULARS

ILLUSTRATION 16

opening in the wall would look best, nor does it help me to establish the height of this opening in relation to its width. Therefore I call to my aid Dynamic Symmetry with the result shown in Illustration 17. Of the essential rightness of the space relations arrived at by these means the reader must be the judge, but if that rightness be conceded, the worth of the system by whose aid the result was achieved is an inevitable corollary.



'THE GLITTERING GATE'
A ROOT-TWO RECTANGLE
INTERSECTIONS OF DIAGONALS AND PERPENDICULARS
DETERMINING ELEMENTS

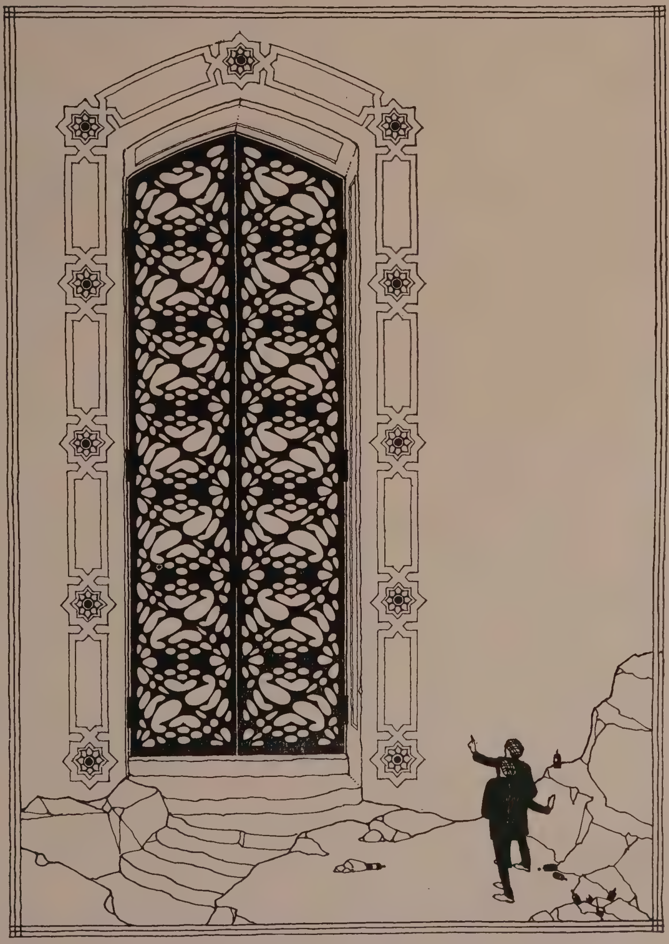


ILLUSTRATION 17

[*From the Theatre Arts Monthly, August,* 1924]

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By

A Lawrence Kocher

Part III

An architect of Chicago in submitting titles of some seventy-odd volumes remarks that "if the student absorbs the spirit of the enclosed list he has a pretty substantial start." This recalls, in contrast, the classic advice of Lord Chesterfield who in 1749 advised his son at Vicenza to "employ three or four days in learning the Five Orders of Architecture and you may know all that you need to know."

There remains to be considered the enumeration of works, sponsored by architectural firms, which were submitted with little or no comment.

Mr. Harvey W. Corbett

Phillips & Bolton—The Gardens of Italy.
Triggs—The Art of Garden Design in Italy.
Letarouilly—L'Edifices de Rome Moderne.
D'Espouy—Fragments d'Architecture Antique.
Prentice—Renaissance Architecture in Spain.
    —The Grand Prix de Rome.
Gaudet—Eléments et Théorie de l'Architecture.
Fletcher—History of Architecture.
Anderson—The Renaissance in Italy.
Anderson & Spiers—The Architecture of Greece & Rome.
Latham—In English Homes.
Lowell—Italian Villas and Farmhouses.
Pugin—Examples of Gothic Architecture.
    —Monograph of the work of McKim, Mead & White.
    —The Work of Charles Platt.
    —The Georgian Period.

Mr. Howard Van Doren Shaw

Maspero—The Dawn of Civilization.
Perrot & Chipiez—History of Art in Ancient Egypt.
Prisse d'Avennes—Histoire de l'Art Egyptien. 2 vol.
Rawlinson—History of Ancient Egypt. 2 vol.
Perrot & Chipiez—History of Art in Chaldæa & Assyria, Persia, Phrygia and Judea. 5 vol.
Anderson & Spiers—The Architecture of Greece and Rome.
D'Espouy—Fragments d'Architecture Antique.
Fergusson—The Parthenon.
Gardner—Hand Book of Greek Sculpture.
Frazer—Pausanias's Description of Greece. 6 vol.
Mauch—Die Architectonischen Ordnungen der Griechers.
Middleton—Plans and Drawings of Athenian Buildings.
Penrose—An Investigation of the Principles of Athenian Architecture.
Choisy—L'Art de Bâtir Chez les Romains.
Gusman—La Villa Impériale de Tibur.
Viollet-le-Duc—Rational Building.
Lanciani—Ancient Rome in the Light of Recent Discoveries.
Piranesi—Antichità Romane.
Choisy—L'Art de Bâtir Chez les Byzantins.
Lethaby—Church of Sancta Sophia, Constantinople.
Pugin—Architectural Antiquities of Normandy.
Pugin—Examples of Gothic Architecture.
Pugin—Specimens of Gothic Architecture.
Paley—Gothic Mouldings.
Viollet-le-Duc—Dictionnaire de l'Architecture.
Cummings—A History of Architecture in Italy from the Time of Constantine to the Dawn of the Renaissance.

Strack—Ziegelbauwerke des Mittelalters und der Renaissance in Italien.
—Monumentos Arquitectonicos de Espana.

Anderson (W. J.)—The Architecture of the Italian Renaissance.
Geymüller—Die Architektur der Renaissance in Toscana.
Raschdorff—Toscana.
Reinhardt—Genua.
Letarouilly—Edifices de Rome Moderne. 3 vol.
Letarouilly—Le Vatican et la Basilique de Saint Pierre de Rome.
Daly—Motifs Historiques d'Architecture et de Sculpture.
Prentice—Renaissance Architecture and Ornament in Spain.
Gotch—Architecture of the Renaissance in England.
Gotch—Early Renaissance Architecture in England.
Nash—Mansions of England in the Olden Times.
Tanner—English Interior Woodwork.
Adam (R. & J.)—Works in Architecture.
Adam (R. & J.)—Decorative Work of Architecture.
Belcher & Macartney—Later Renaissance Architecture in England.
Blomfield—History of Renaissance Architecture in England.
Stratton—Life, Work and Influence of Sir Christopher Wren.
Taylor—Towers and Steeples designed by Sir Christopher Wren.
Triggs & Tanner—Some Architectural Works of Inigo Jones.
Triggs—Formal Garden in England and Scotland.
Macartney—The Practical Exemplar of Architecture.
Garner & Stratton—Domestic Architecture of England During the Tudor Period.
Favier—Versailles et les Trianons.
Murphy—English and Scottish Wrought Iron.
—The Works of Charles Platt; Introduction by R. Cortissoz.
McKim, Mead & White—(Monograph)
——Georgian Period.
Bankart—The Art of the Plasterer.
Francis Bond—The Cathedrals of England & Wales.
Gertrude Jekyll—Garden Ornaments.
Lutyens, E. L.—Houses and Gardens.
March Phillipps—Art and Environment.

MR. ROBERT D. KOHN

Guadet—Principles of Architecture.
American Institute of Architects—Significance of the Fine Arts.
March Phillipps—Art and Environment.
Cram—Walled Towns.
Bond—Gothic Architecture.
Fromentin—Maitres d'autrefois (translated).
For picture books:
Sculpture of Chartres Cathedral.
Kunst des Ostens (German Publications)
Chinese
Indian Sculptures.
Illustrated works on the Flemish painters
—Van Eyck.
—Memling.

The third, fourth and fifth books have been suggested to me by others: I do not know them myself. I used to enjoy reading Viollet-le-Duc, but he can only be had in French.* Then, too, Irvine Babbits 'The New Laokoon' was one of my favorites, but my younger associates say that it is too philosophic for a student."

MR. WALTER KILHAM

Symonds, J. A.—Renaissance in Italy.
—The Fine Arts.
—The Age of the Despots.
Hugo, Victor—Bell Ringer of Notre Dame (Especially the chapters on Gothic Architecture).
Vasari—Lives of the Painters.
Viollet-le-Duc—Dictionnaire Raisonné (Chapters on Construction & Cathedrals).
Ruskin, John—Seven Lamps of Architecture.
Norton, Chas. E.—Church Building in the Middle Ages.
Adams, Henry—Mont Saint Michel and Chartres.

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*Translations are available in older libraries of Viollet-le-Duc; Discourses on Architecture. Boston, 1875, Rational Building. A translation of the article, "Construction," in the Dictionnaire Raisonne de l'Architecture Francaise, by G. M. Huss, N. Y., 1896. How to Build a House, London, 1874.

"For a very modern book the 'Life of D. H. Burnham' by Charles Moore is an extremely inspiring work for the modern architect."

ROBERT D. FARQUHAR

Fauré, Elie—History of Art (Translated into English, or in French).
Letarouilly—Edifices de Rome Moderne.
D'Espouy—Fragments d'Architecture. 3 vol.
Gromort—Choix de Plans de Grandes Compositions.
Gromort—Eléments d'Architecture Classique.
Blondel—Architecture Francaise. 4 vol.
Durand, J. N. L. (Venice, 1833)—The Grand Durand—Recueil des Edifices de tout genre.
Deshairs, Leon—Le Château de Maisons (Maisons Lefitte) Calavas, Editeur.
Eggimann, Ch.—L'Architecture et la Decoration aux Palais du Louvre et des Tuileries. 2 vol.
Pfnor—Château d'Anet.
Guadet, J.—Eléments et Théorie de l'Architecture.
Ward, W. H.—French Renaissance. 2 vol.
Blomfield, R.—A History of French Architecture, 1494-1661.
Crane—Farm Houses—Manor Houses—Small Churches in Normandy and Brittany.
Coffin, Polhemus, & Worthington—Small French Buildings.
Buehlmann—Architektur des Klassischen Altertums.
Haupt—Palast-Architektur, 5 or 6 vols. on Cities in Italy.
Phillips & Bolton—Gardens of Italy.
Whittlesey—Architecture of Northern Spain.
Whittlesey—Architecture of Southern Spain.
Goodyear—Greek Refinements.
Eberlein—Details of Architecture in Tuscany.
Eberlein—Villas of Florence and Tuscany.
Ricci (Directed by)—Italia Artistica (82 or more small volumes sold separately).
Lowell, Guy — Italian Villas and Farm Houses.
—More Italian Villas.
Byne & Stapley—Spanish Interiors and Furniture. 4 vols.
Gusman, P.—L'Art Decoratif de Rome. 3 vols.
Porter—Lombard Architecture.
Garner & Stratton—Domestic Architecture of England during the Tudor Period.
Belcher & Macartney—Later Renaissance. 2 vols.
Richardson & Gill—London Houses from 1660 to 1820.
English Country Life—Gardens, Old and New.

MR. BENJAMIN WISTAR MORRIS

Kidder—Architects' & Builders' Handbook.
Ware—The American Vignola.
Magonigle—Architectural Rendering & Wash.
McGoodwin—Shades and Shadows.
Lubschez—Perspective.
D'Espouy—Monuments d'Antique.
D'Espouy—Fragments d'Architecture Antique.
Macartney—The Practical Exemplar of Architecture.
Sweet's Catalog.
Belcher & Macartney—Later Renaissance Architecture in England.
Letarouilly—Edifices de Rome Moderne.
Pugin—Examples of Gothic Architecture.
Guadet—Eléments et Théorie d'Architecture.
Latham—In English Homes.
English Country Life—Gardens, Old and New.
Triggs—The Art of Garden Design in Italy.
Haupt, Reinhardt & Raschdorff—Palast Architektur von ober Italien.
Myers—Handbook of Ornament.
—Grand Prix de Rome.
Harvard—Histoire et Philosophie des Styles.
Murphy—English & Scottish Wrought Iron Work.
Cescinsky—English Furniture of the 18th Century.
Garner & Stratton—Domestic Architec-

ture of England during the Tudor Period.
—The Georgian Period.
Racinet—History of Ornament.
Weaver—Memorials & Monuments.

"For Guadet—Eléments et Théorie d'Architecture, the text of which is in the French language, there might be substituted 'The Significance of the Fine Arts,' American Institute of Architects."

Mr. Ralph Adams Cram

Certain books worth reading.

Adams, Henry—*Mont St. Michel and Chartres.
Taylor, H. O.—*The Mediæval Mind.
Walsh, Jas. J.—The Thirteenth, Greatest of Centuries.
Cram, Ralph A.—*The Substance of Gothic.
Chesterton, G. K.—A Short History of England.
Thorndike, Lynn—History of Mediæval Europe.
Cram, Ralph A.—Heart of Europe.

Government and Politics.

Faguet, Emile—*The Cult of Incompetence.
Pobyedonostseff—Reflections of a Russian Statesman.
Ludovici, A. M.—A Defense of Aristocracy.
—Criticisms of "Civilization."
Figgis, J. N.—*Civilization at the Cross Roads.
Carpenter, Edw.—Civilization, Its Cause and Cure.
Chesterton, G. K.—*What's Wrong with the World.
Wallace, A. R.—Social Environment and Moral Progress.
Cram, Ralph Adams—*The Nemesis of Mediocrity.
Ferrero, G.—*Europe's Fateful Hour.

The Industrial Problem

Belloc, Hilaire—The Servile State.
Penty, A. J.—*Old Worlds for New.
Hobson, J. A.—Democracy After the War.
Kropotkin (Prince)—Mutual Aid.
Penty, A. J.—Restoration of the Guild System.
Mann, Sievers, Cox—*The Real Democracy.
Morris, Wm.—Signs of Change.
Chesterton, G. K.—Utopia of Usurers.

Art

Phillipps, March L.—*Form and Colour.
Diehl, Ch.—Manuel d'Art Byzantine.
Cram, Ralph Adams—The Ministry of Art.
Porter, A. K.—Beyond Architecture.
Bond, F. B.—The Gate of Remembrance.

The War

Phillipps, March L.—*Europe Unbound.
Figgis, J. N.—The Will to Freedom.
Chesterton, G. K.—The Crimes of England.
Chesterton, Cecil—The Prussian Hath Said in His Heart.
Thayer, Wm. R.—The Collapse of Superman.
Herrick, Robert—The World Decision.

Real Literature

Brown, Sir Thomas—Religio Medici.
Gissing, Geo.—The Private Papers of Henry Ryecroft.
Carmichael, M.—*The Life of John Wm. Walshe.
Chesterton, G. K.—The Victorian Age in Literature.
Arnold, Matthew—Culture and Anarchy.
Carmichael, M.—The Solitaries of the Sambuca.
Murray, Gilbert—The Plays of Euripides.

Religion

Chesterton, G. K.—*Orthodoxy.
Baudrillart, A.—Catholic Church, Renaissance and Protestantism.
Gasquet, F. A.—*Henry VIII and the English Monasteries.
Cram, Ralph Adams—The Great Thousand Years.

Fiction (and more than fiction)

Chesterton, G. K.—*The Napoleon of Notting Hill.
Belloc, Hilaire—Emanuel Burden.
Oldmeadow, Ernest—*Antonio.
Benson, Hugh—*Lord of the World.
Chesterton, G. K.—*The Man Who Was Thursday.

Childers, Erskine—The Riddle of the Sands.
Thorne, Guy—When It Was Dark.
Morris, William—A Dream of John Ball.
Chesterton, G. K.—The Flying Inn.
Stephens, James—The Crock of Gold.
McKenna, Stephen—*Sonia.

Supplementary List

Penty, Arthur J.—*A Guildman's Interpretation of History.
Petrie, Flinders—The Revolutions of Civilization.
Hubbard, A. J.—The Fate of Empires.
White, Bouck—The Free City.
Peck, W. G. (English Methodist Minister)—*From Chaos to Catholicism.
Pond, I. K.—The Meaning of Architecture.
Worringer, W.—*Form Problems of the Gothic.
Hobson, S. G.—Guild Problems in War and Peace.
Hilaire Belloc—Europe and the Faith.
Adams, Henry—*Degradation of the Democratic Dogma.
Hilaire Belloc—The Path to Rome.
Adams, Henry—The Education of Henry Adams.
Graham, Stephen—*Priest of the Ideal.
France, Anatole—Penguin Island.
Cram, Ralph Adams—Gold, Frankincense & Myrrh.

Second Supplementary List

Bell, Bernard Iddings—Right and Wrong After the War.
Bull, Paul B.—The Sacramental Principle.
Ireland, Alleyn—Democracy and the Human Relations.
Meiklejohn, Alexander—The Liberal College.
Tawney, R. H.—The Acquisitive Society.

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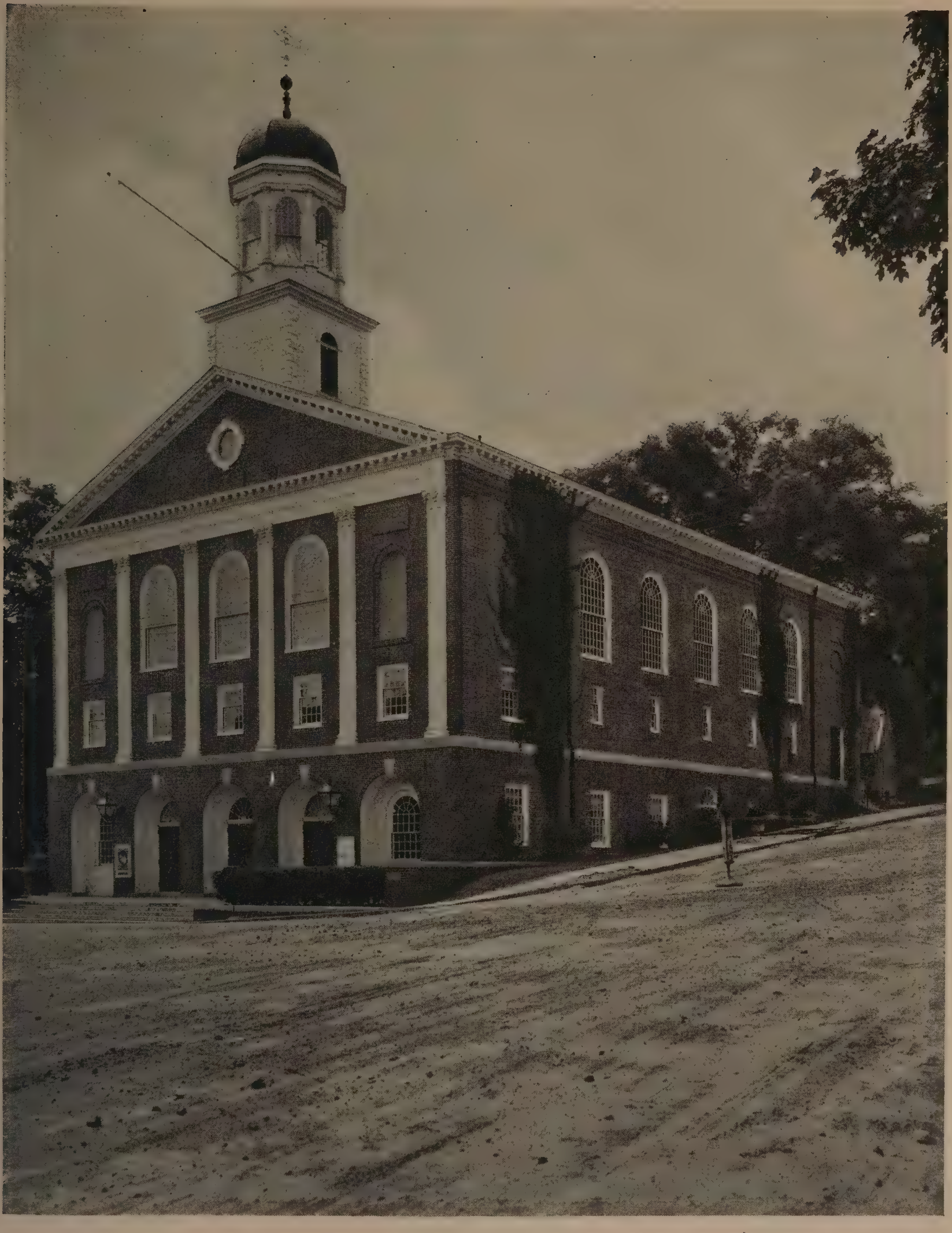
*NOTE—Some of these books, particularly "Reflection of a Russian Statesman," "Lord of the World," "The Free City," "Penguin Island," and "The Defence of Aristocracy" must be read with reservations, but each contains much matter of value.

Books marked with an asterisk are especially recommended. R. A. C.

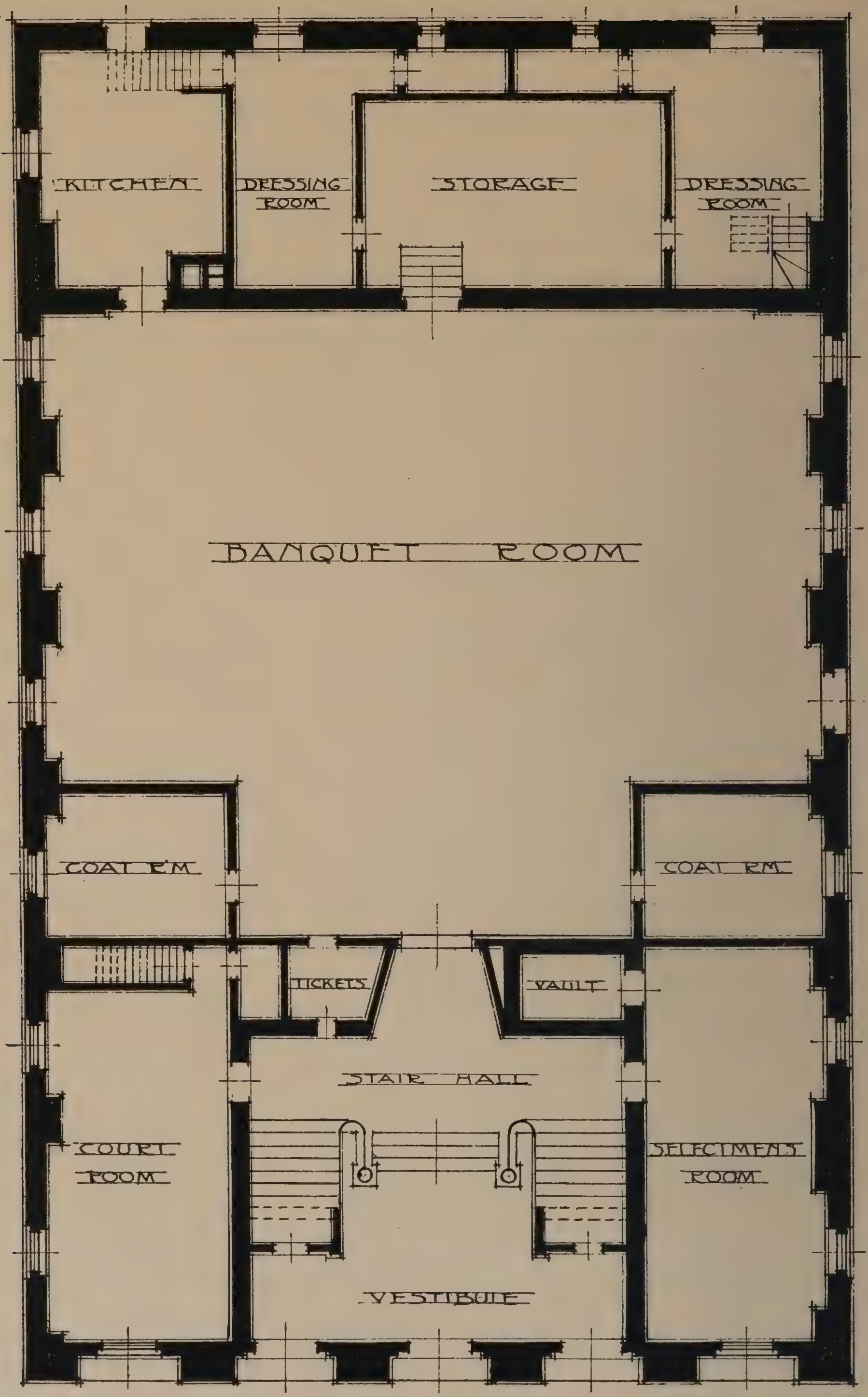
OLD MANOR HOUSE, STANTON, GLOUCESTERSHIRE, ENGLAND

PORTFOLIO

CVRRENT ARCHITECTVRE



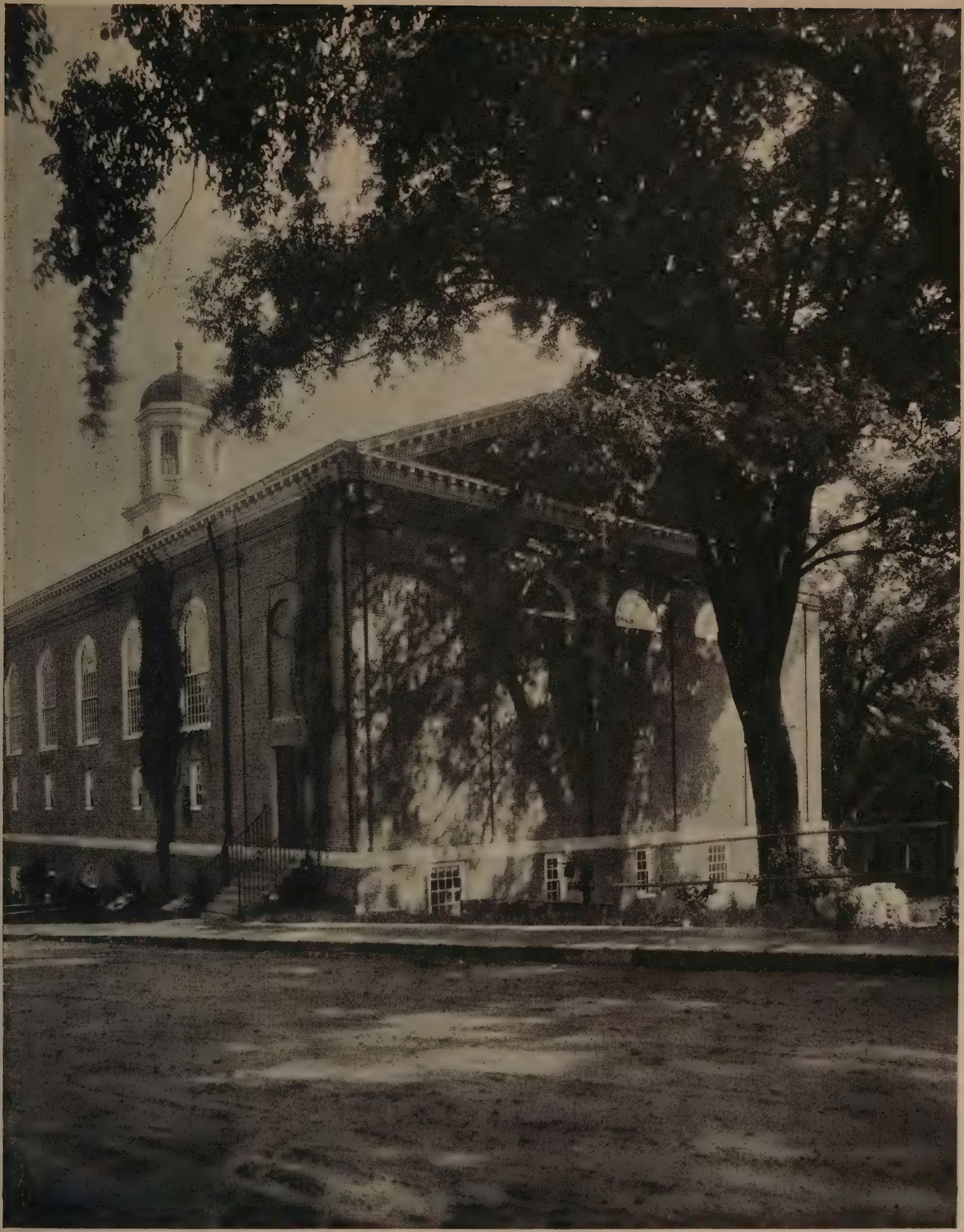
Front View
THE TOWN HOUSE, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects



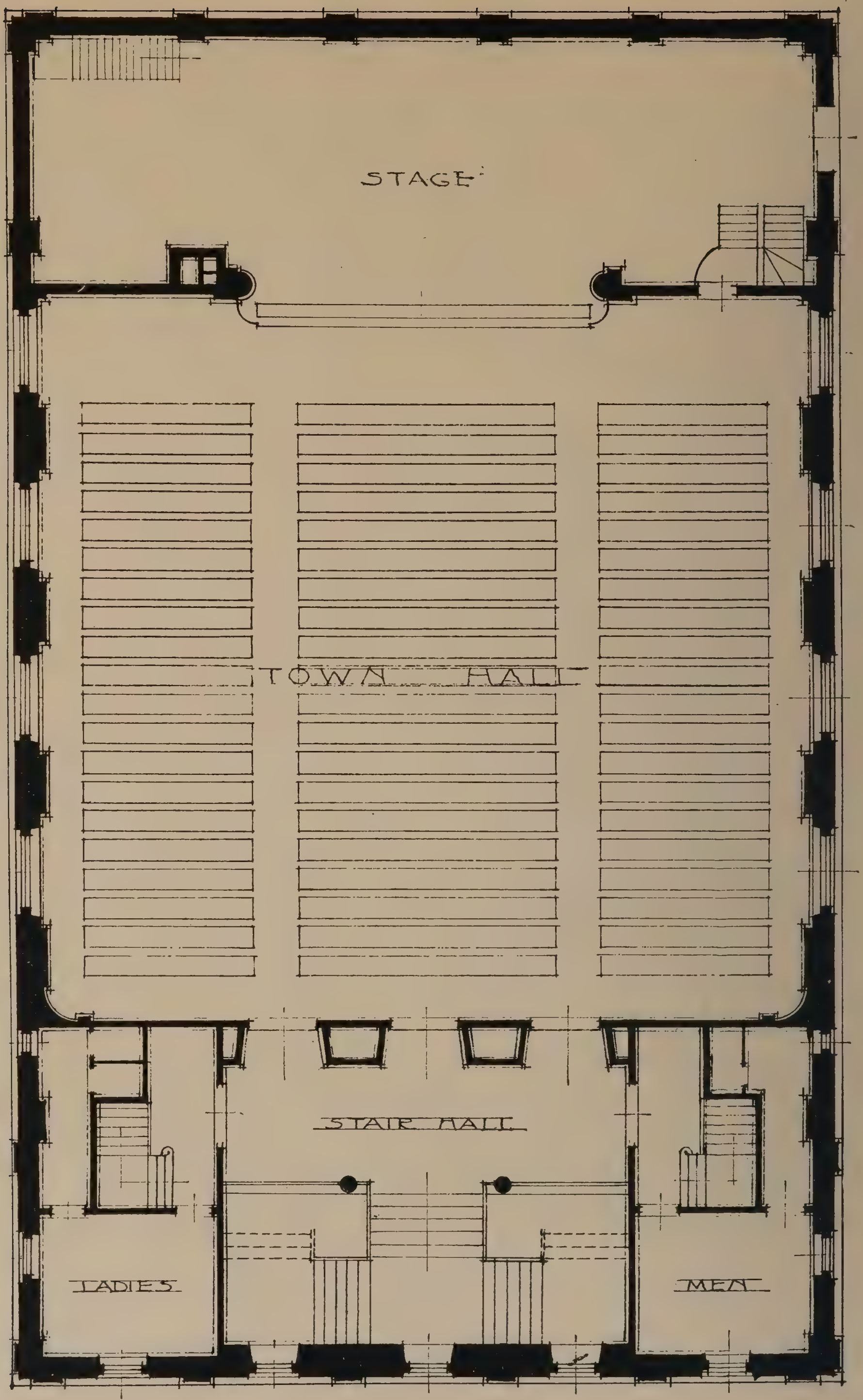
First Floor Plan

THE TOWN HOUSE, PETERBOROUGH, NEW HAMPSHIRE

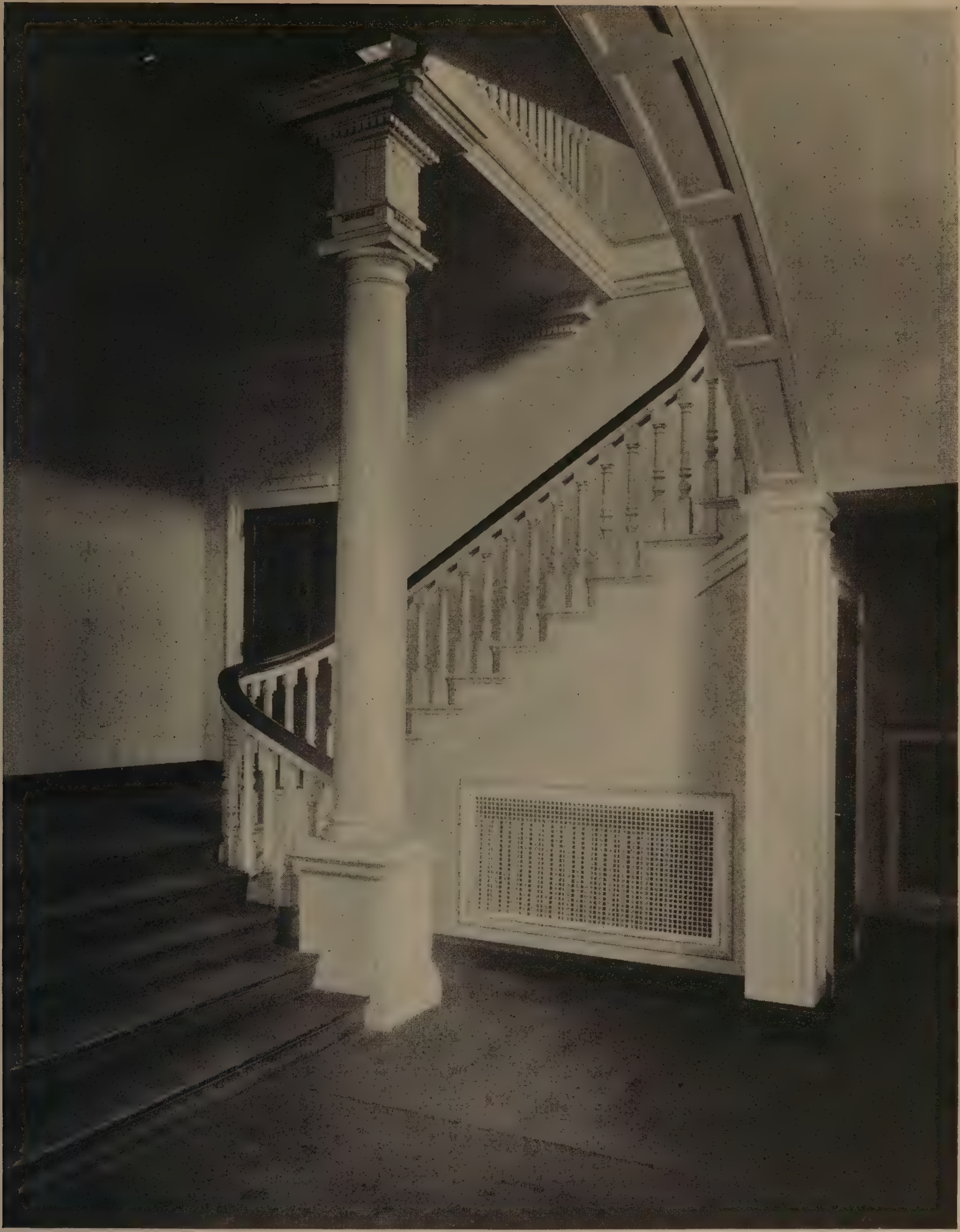
Little & Russell, Architects



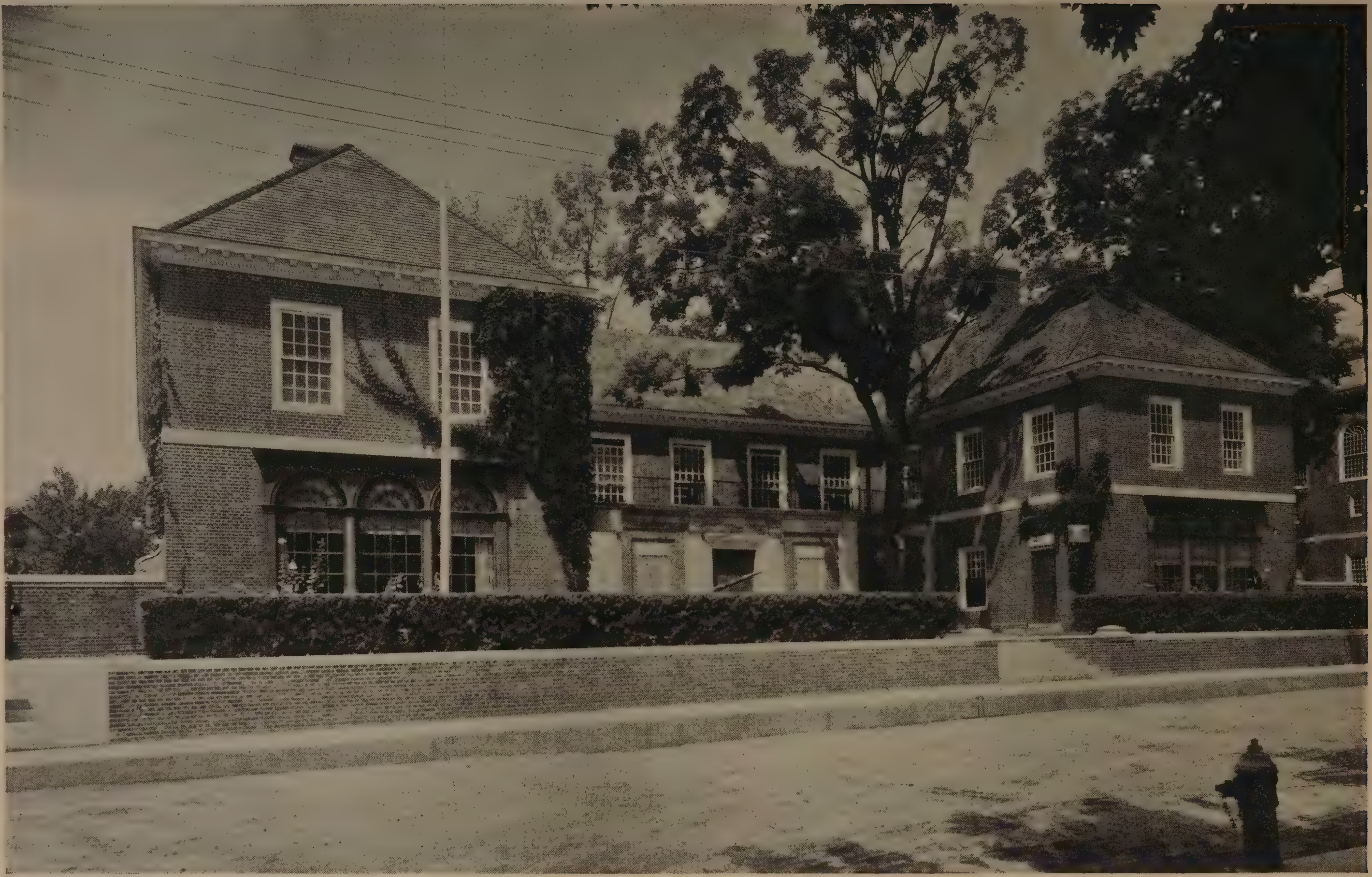
Rear View
THE TOWN HOUSE, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects



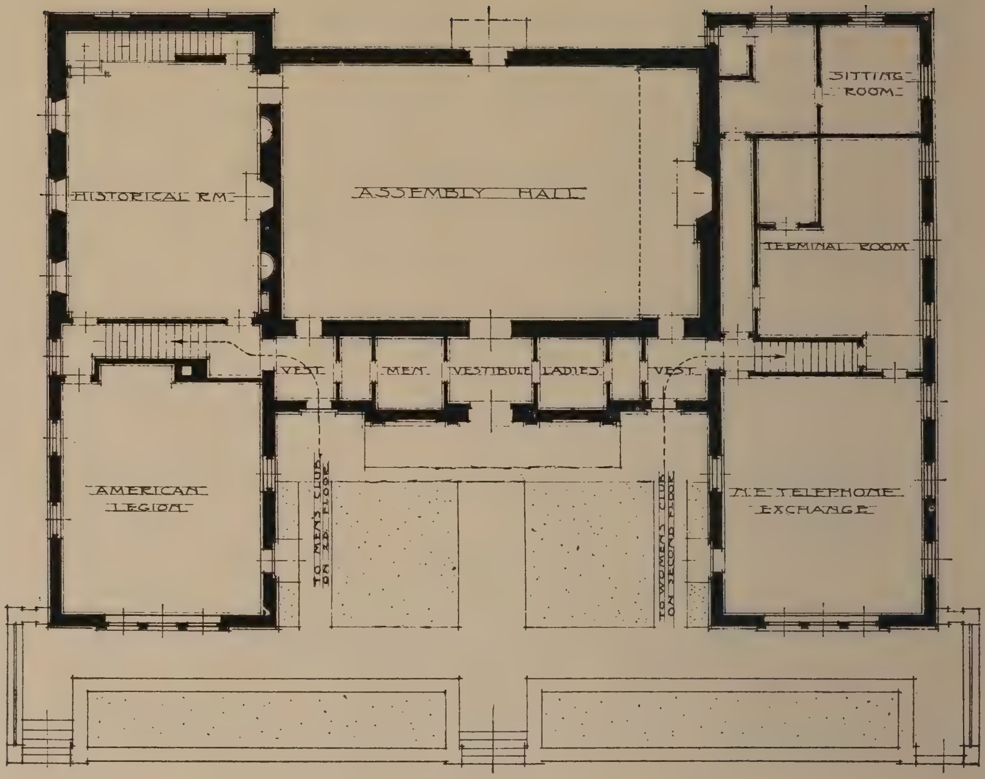
Second Floor Plan
THE TOWN HOUSE, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects



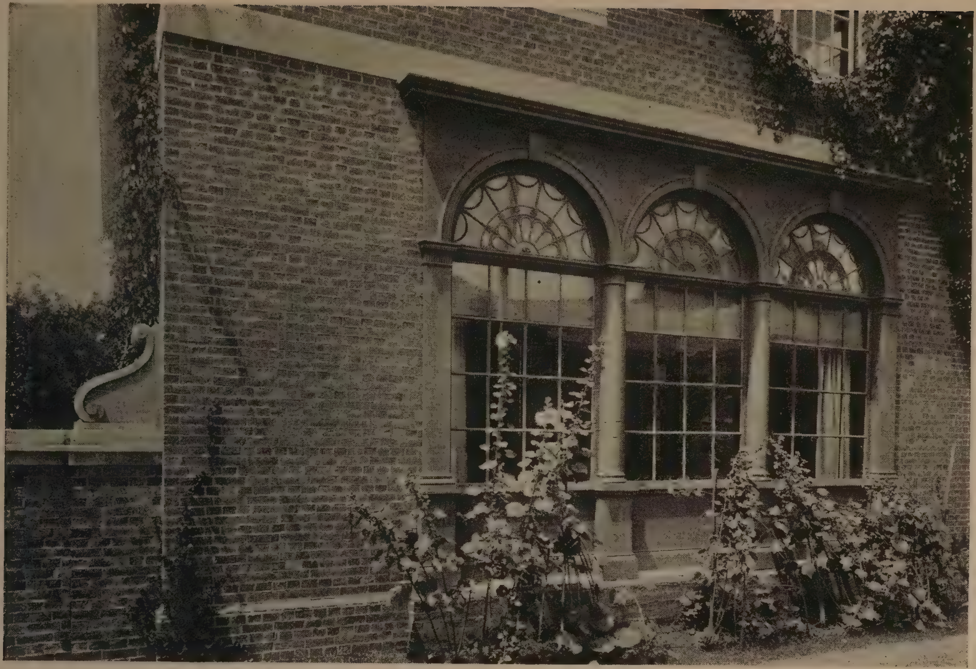
Stair Hall
THE TOWN HOUSE, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects



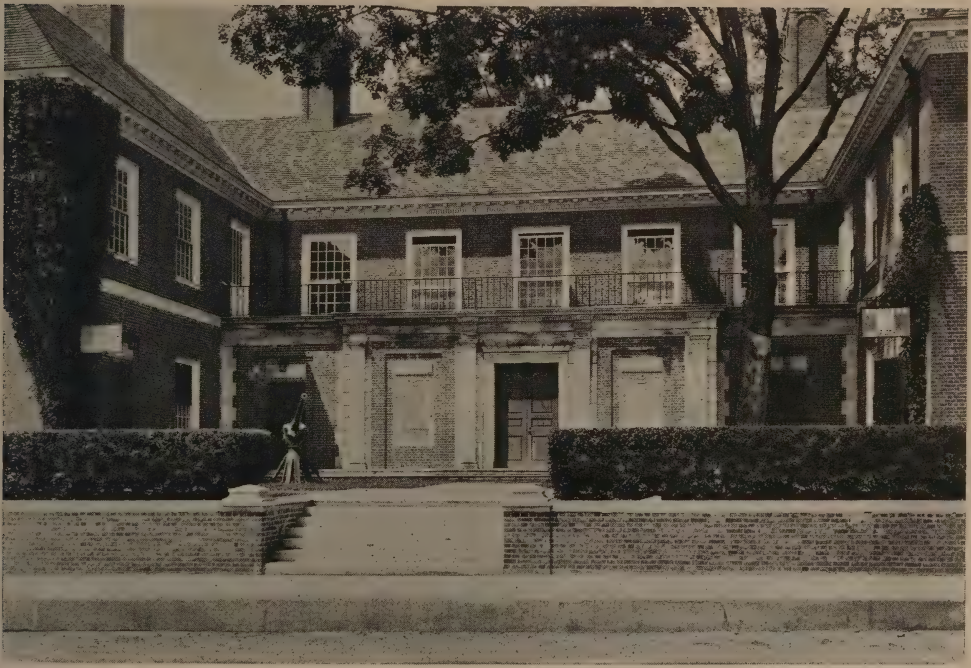
Front View
HISTORICAL SOCIETY BUILDING, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects



First Floor Plan
HISTORICAL SOCIETY BUILDING, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects



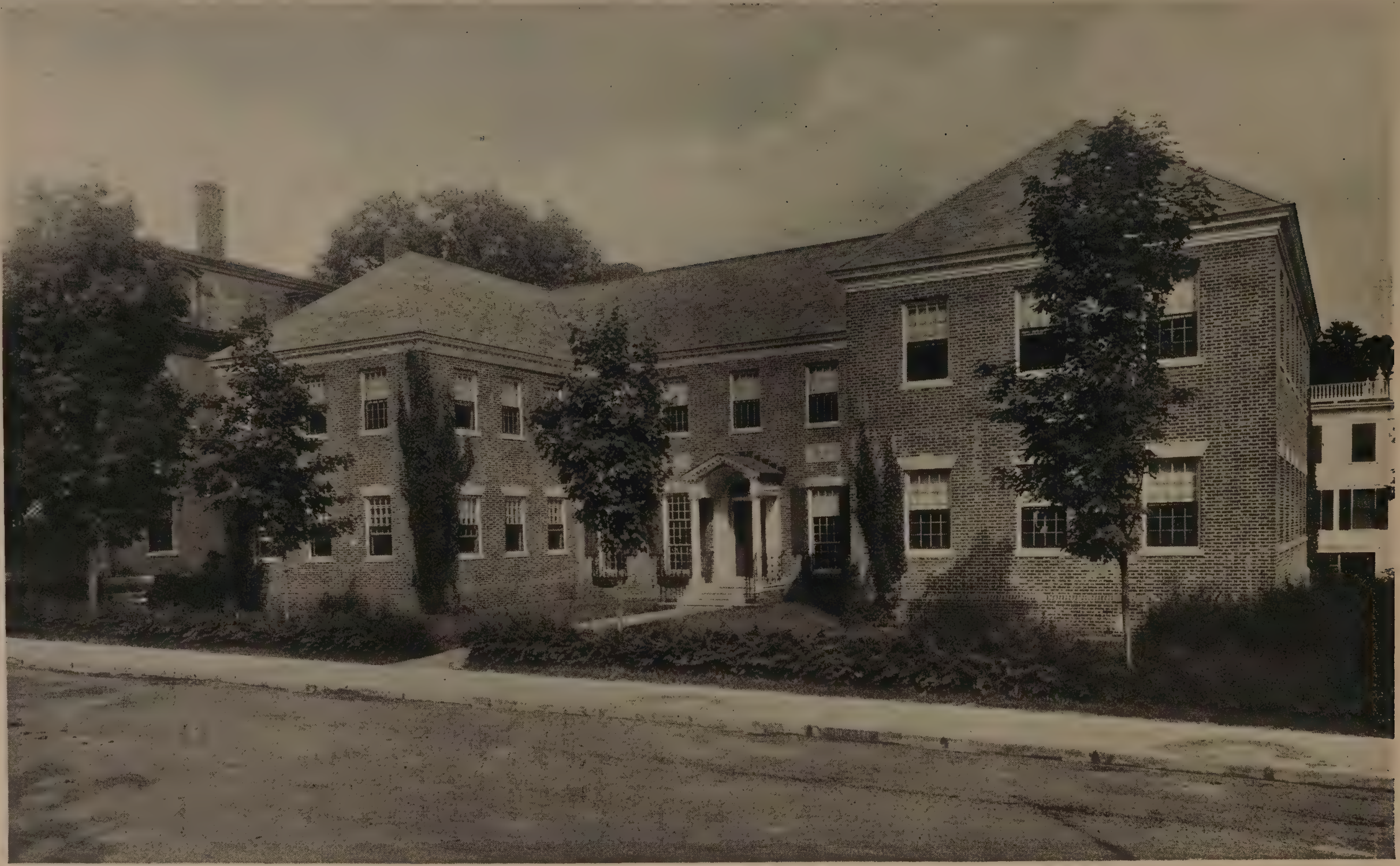
Corner Detail



Entrance Court

HISTORICAL SOCIETY BUILDING, PETERBOROUGH, NEW HAMPSHIRE

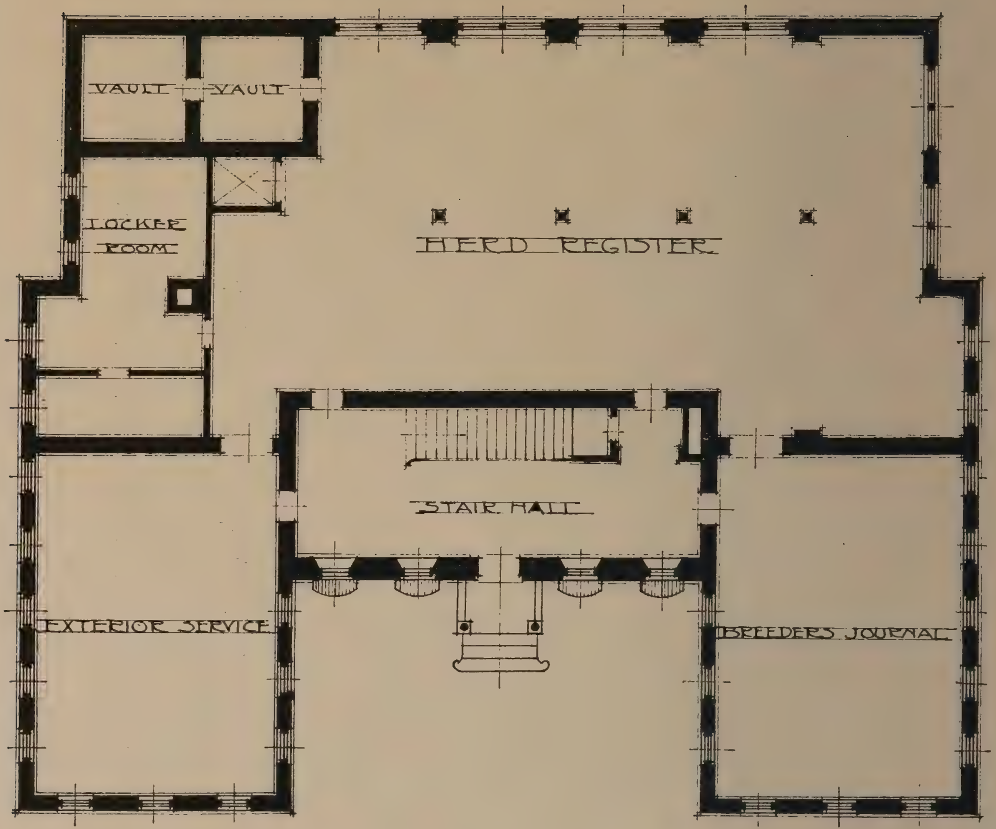
Little & Russell, Architects



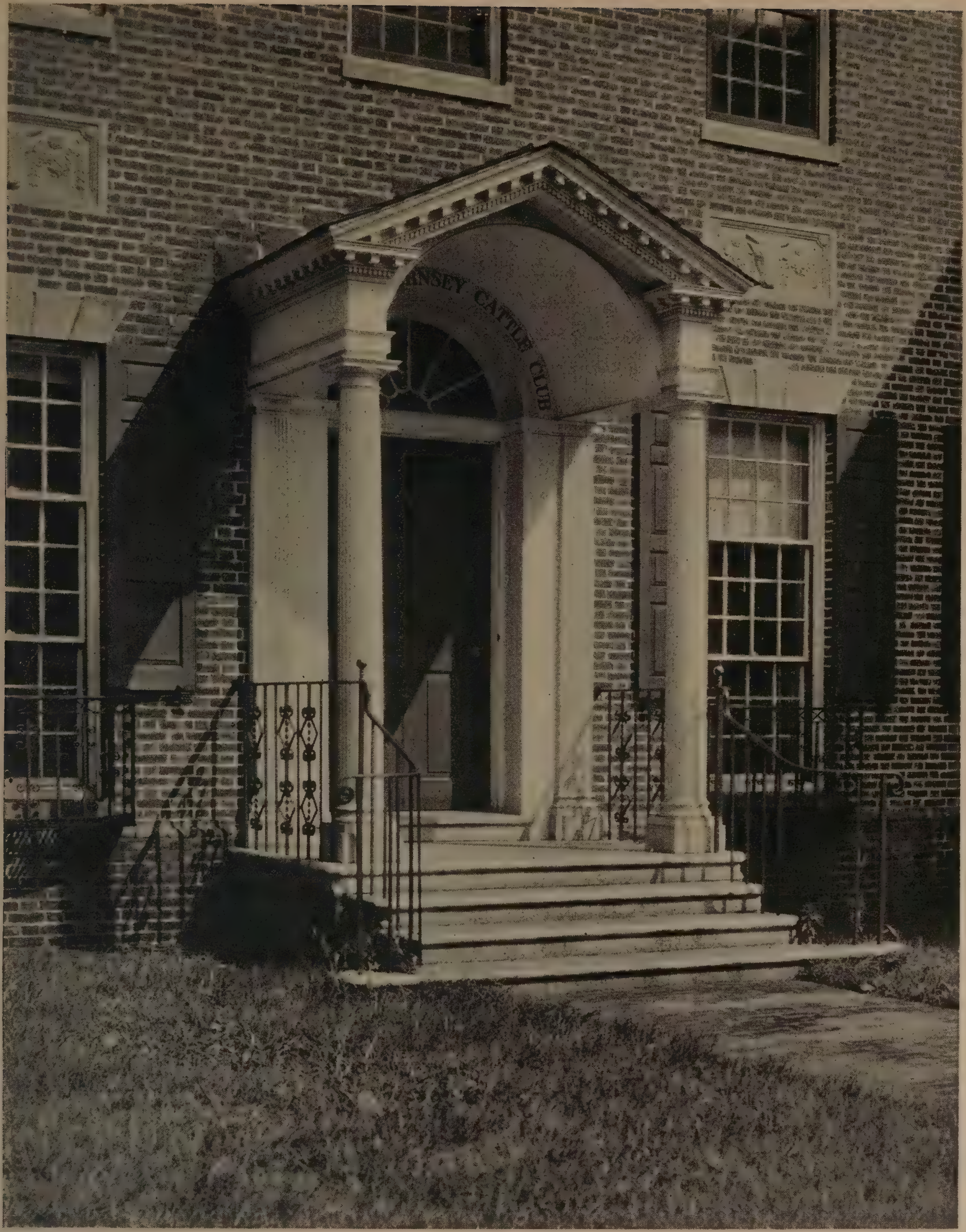
Front View

AMERICAN GUERNSEY CATTLE CLUB, PETERBOROUGH, NEW HAMPSHIRE

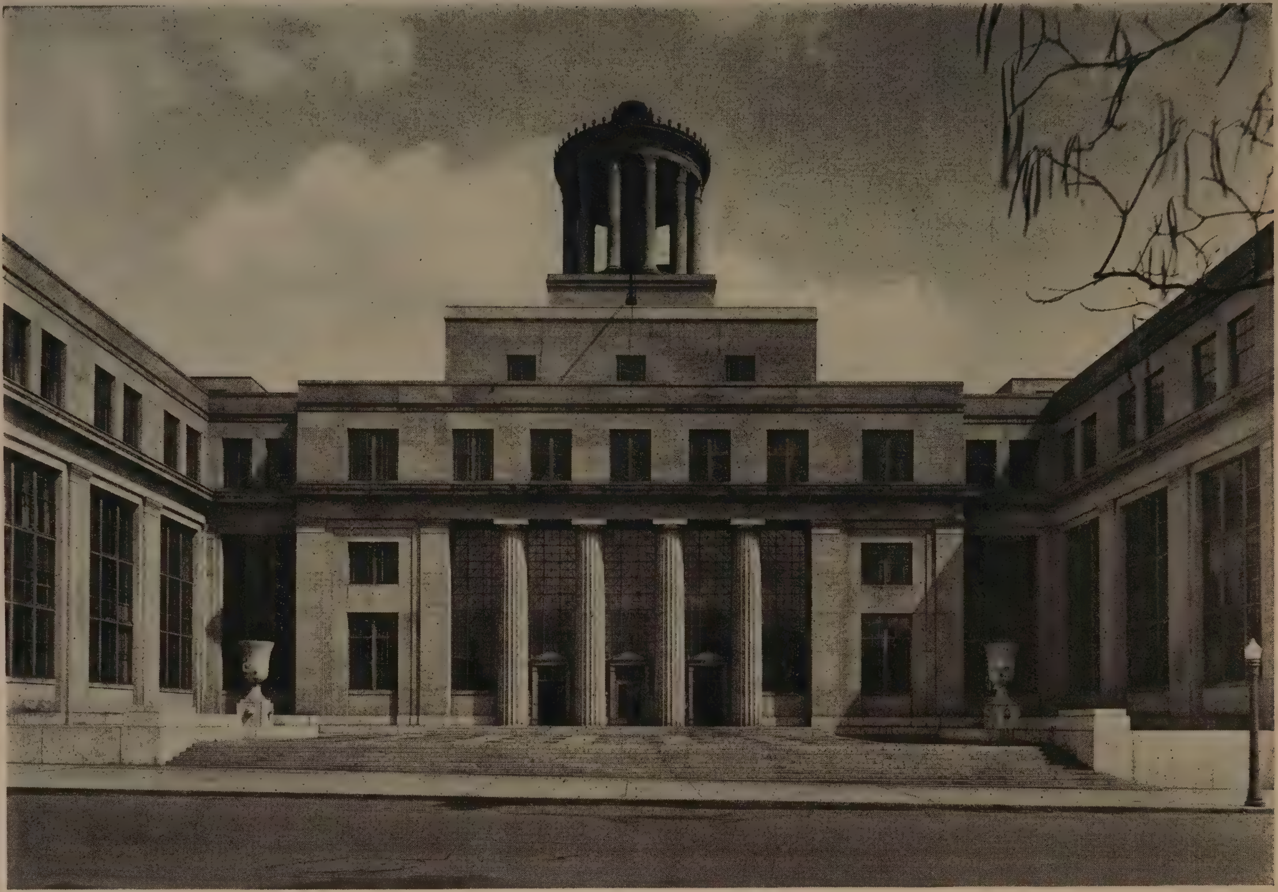
Little & Russell, Architects



First Floor Plan
AMERICAN GUERNSEY CATTLE CLUB, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects



Entrance Detail
AMERICAN GUERNSEY CATTLE CLUB, PETERBOROUGH, NEW HAMPSHIRE
Little & Russell, Architects

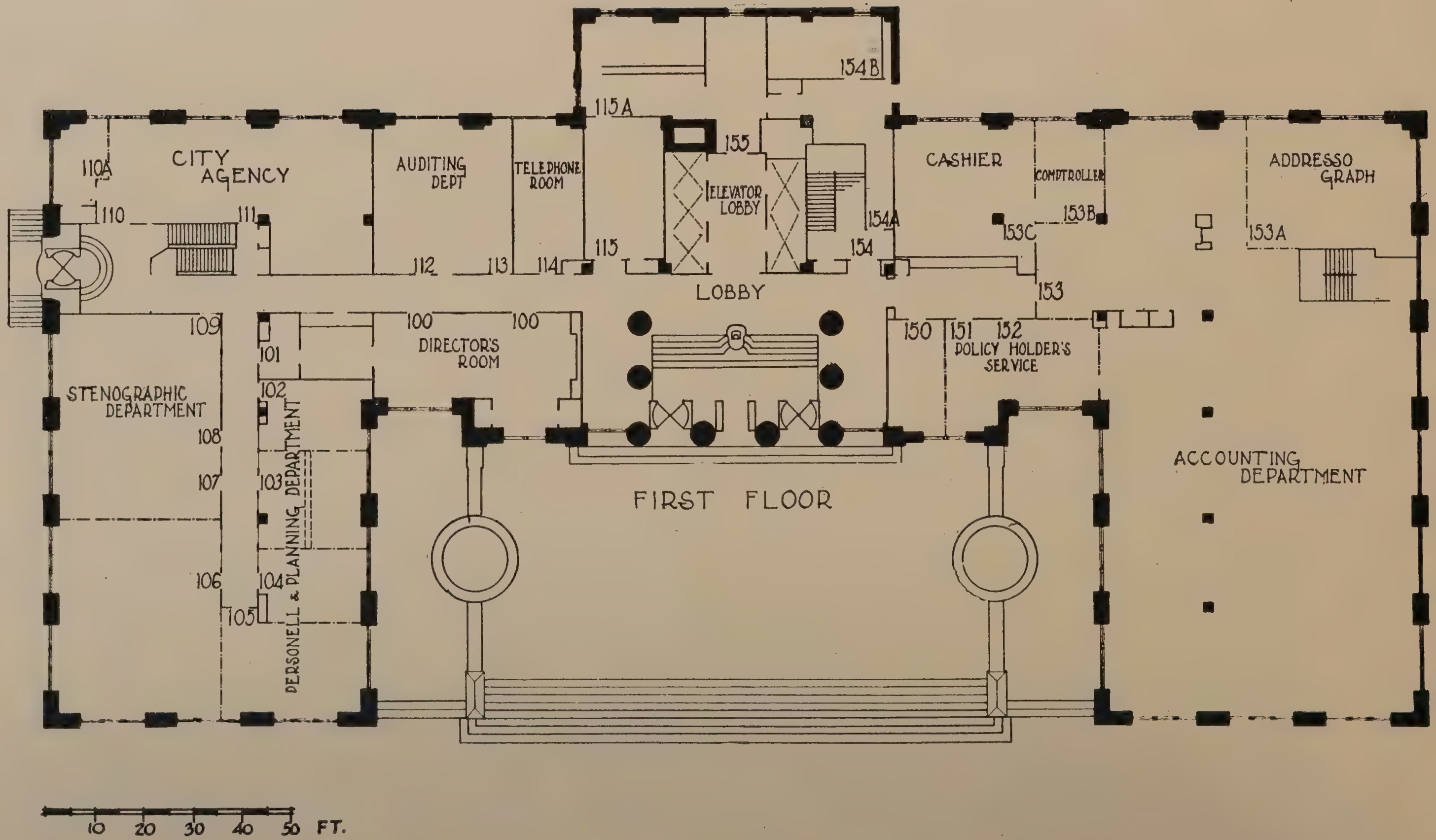


Photographs by *Thomas B. Temple*

Entrance Façade
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

John F. Bacon,
Associated Architect (Construction)



First Floor Plan
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

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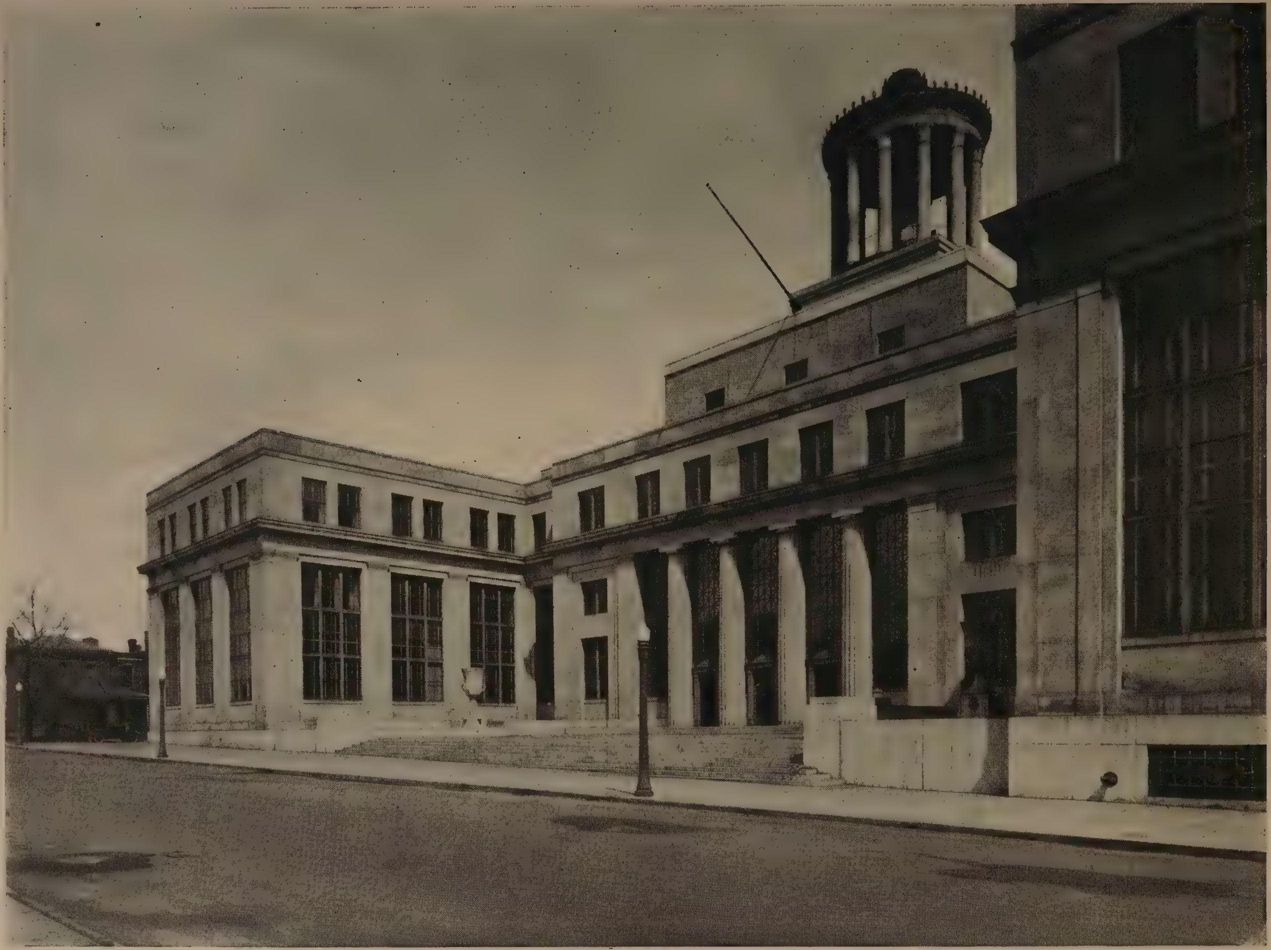


Photographs by Thomas B. Temple

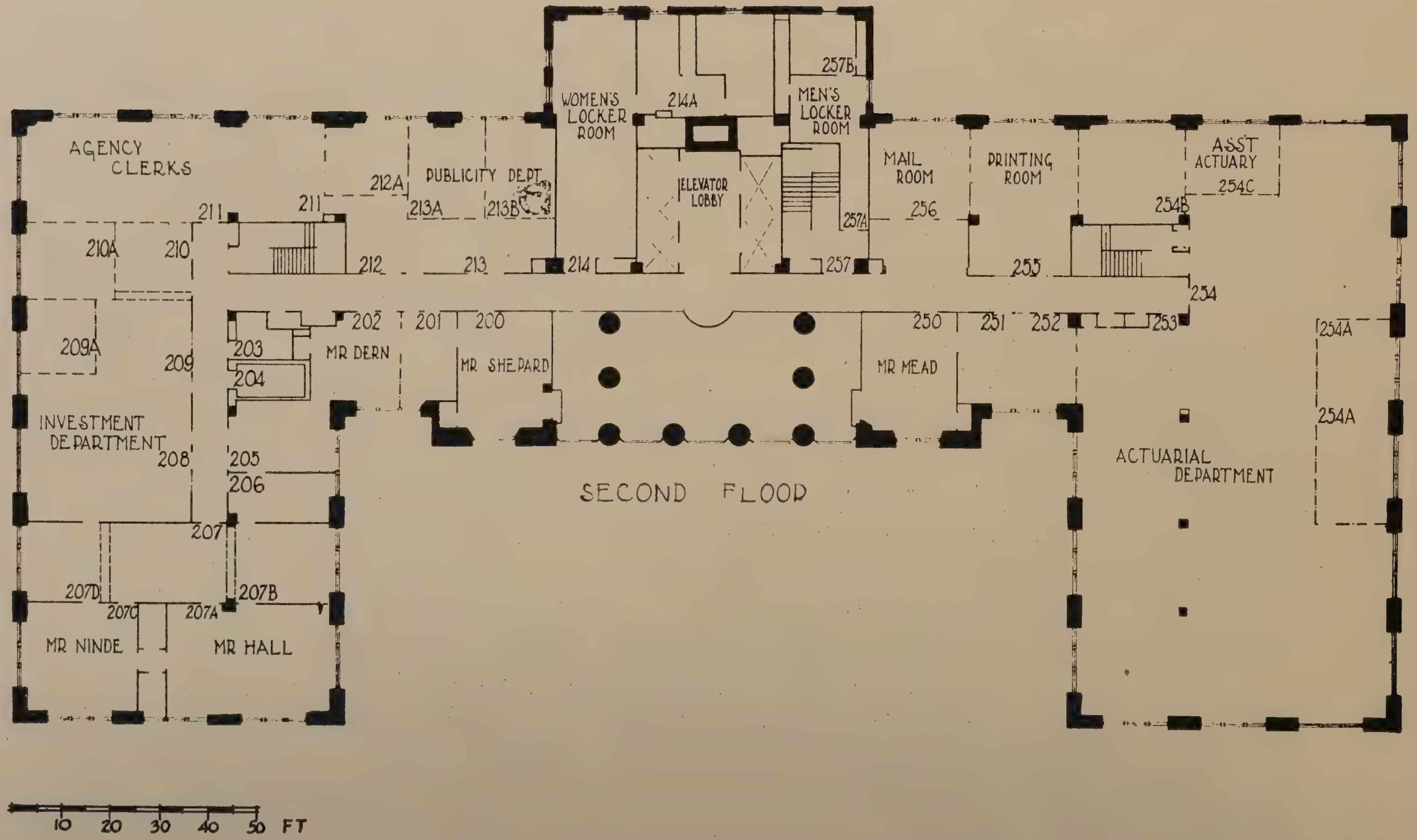
Façade

LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA

Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

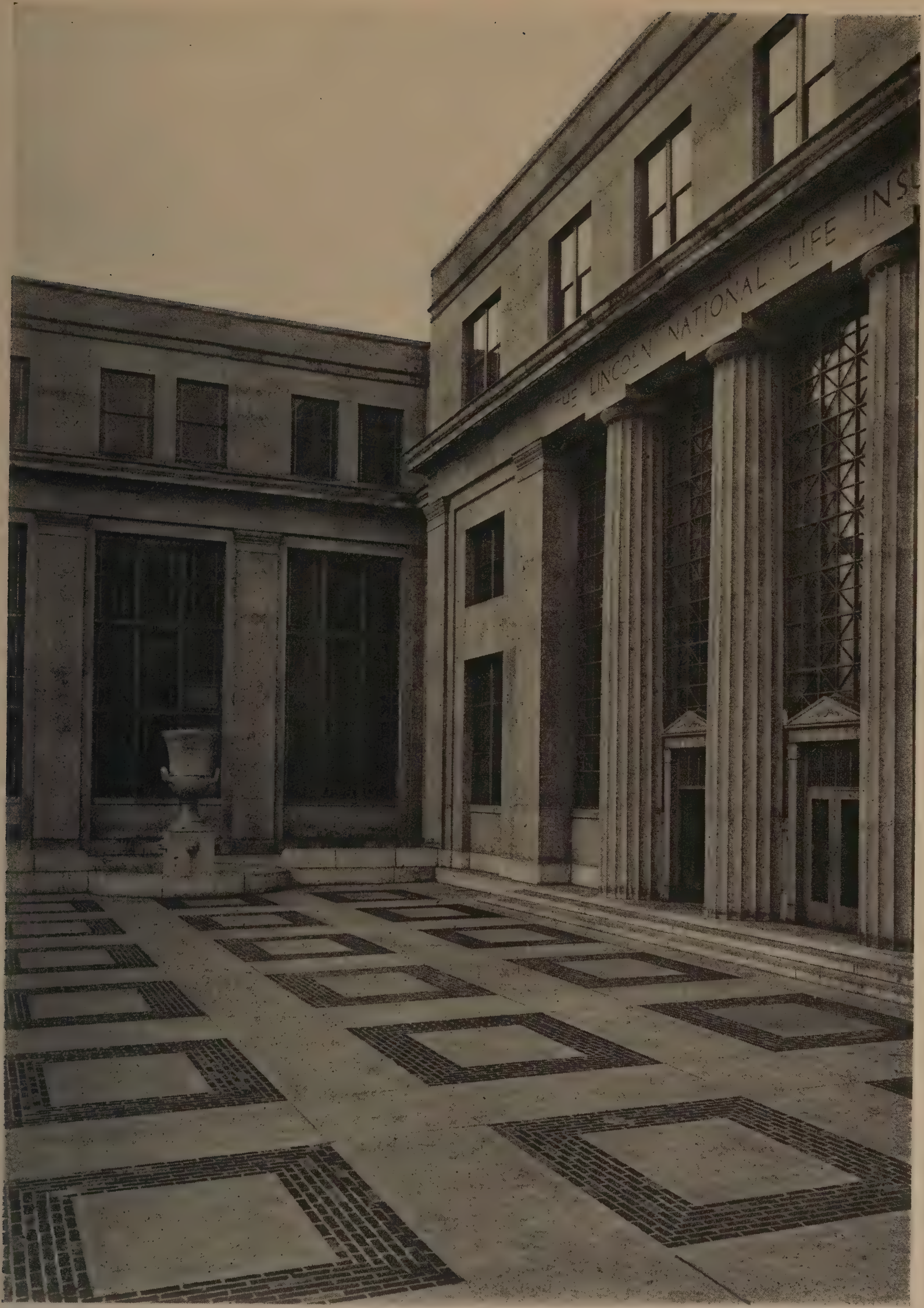
John F. Bacon,
Associated Architect (Construction)



Second Floor Plan
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

John F. Bacon,
Associated Architect (Construction)

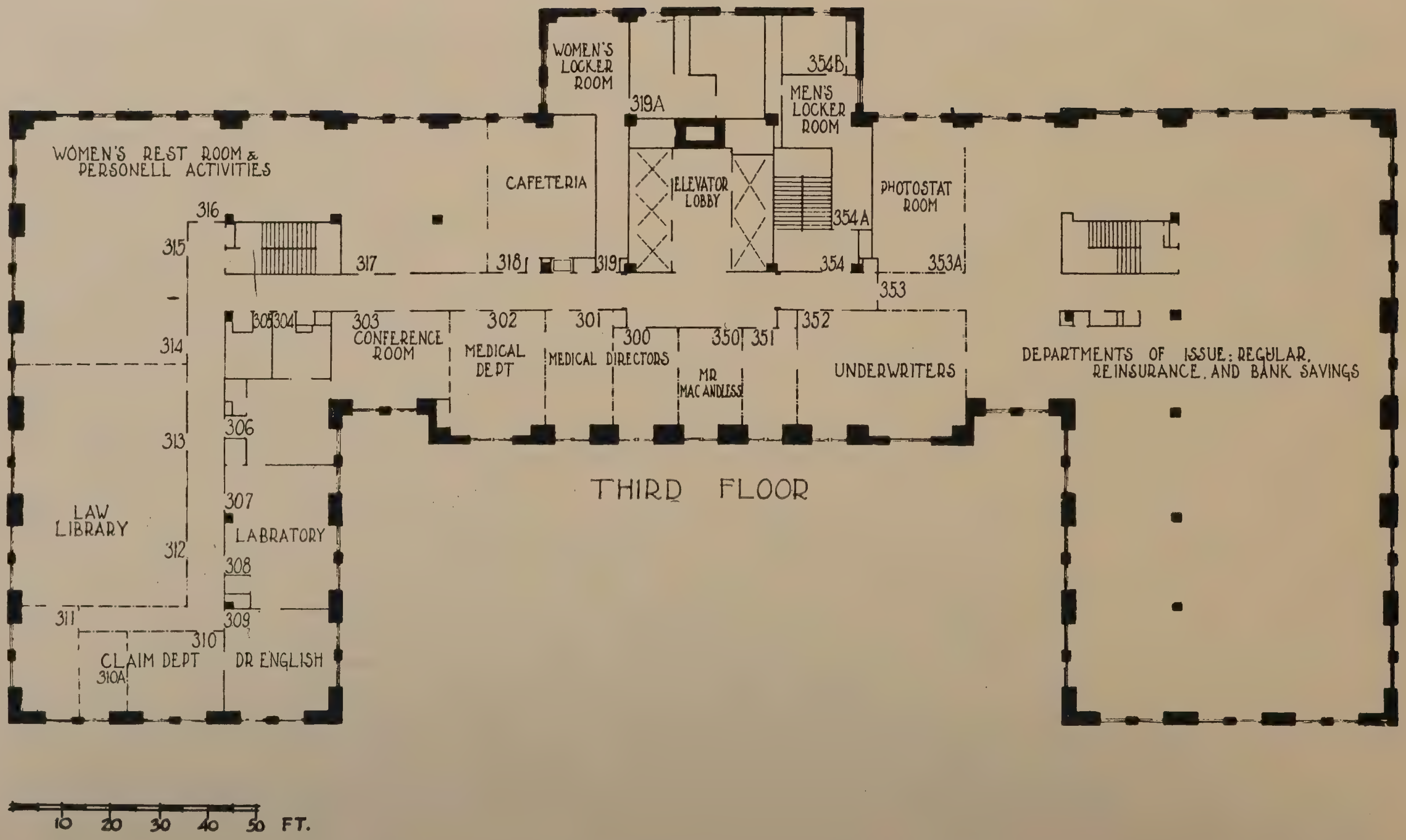


Photographs by Thomas B. Temple

Detail
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

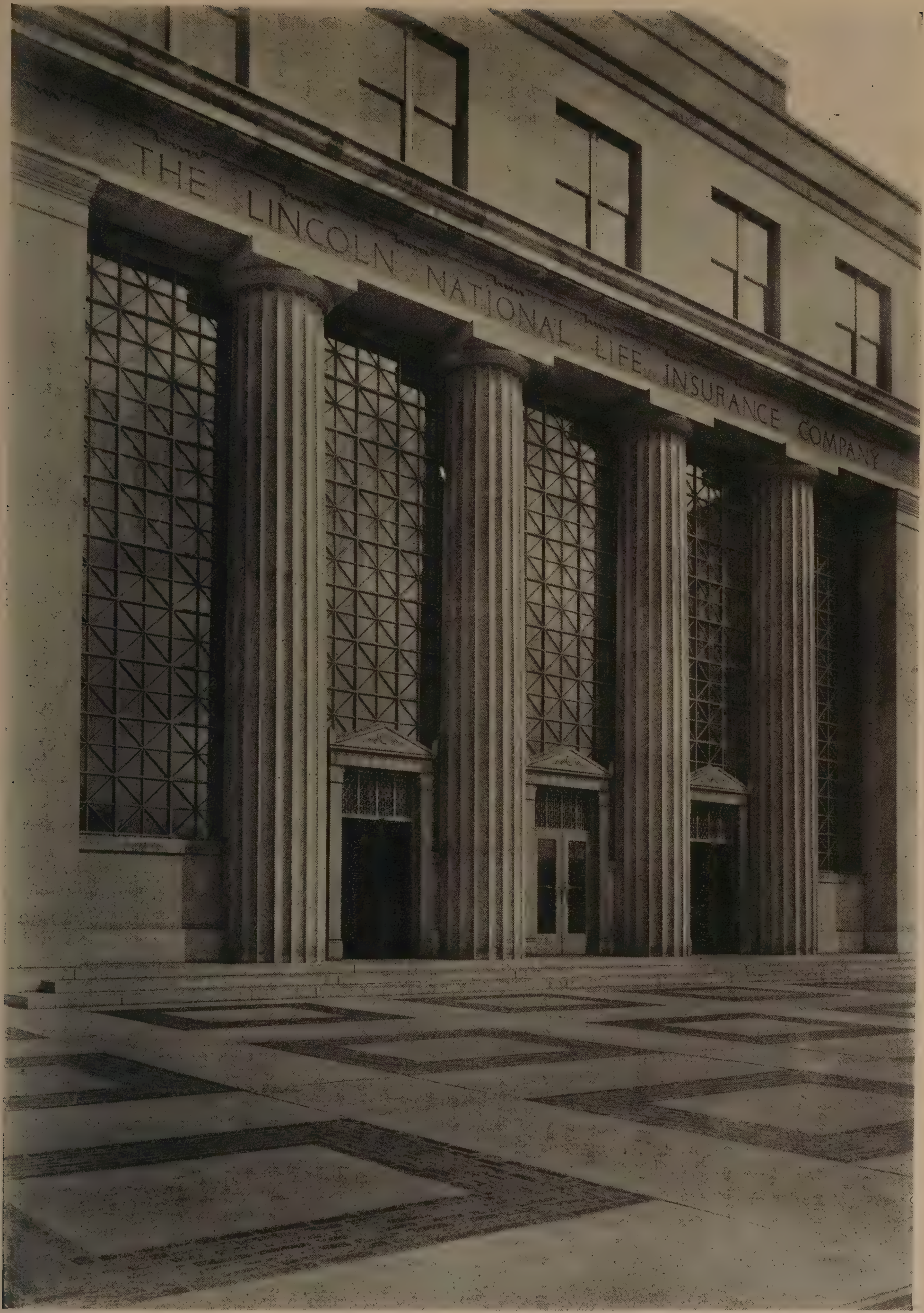
John F. Bacon,
Associated Architect (Construction)



Third Floor Plan
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

John F. Bacon,
Associated Architect (Construction)



Photographs by Thomas B. Temple

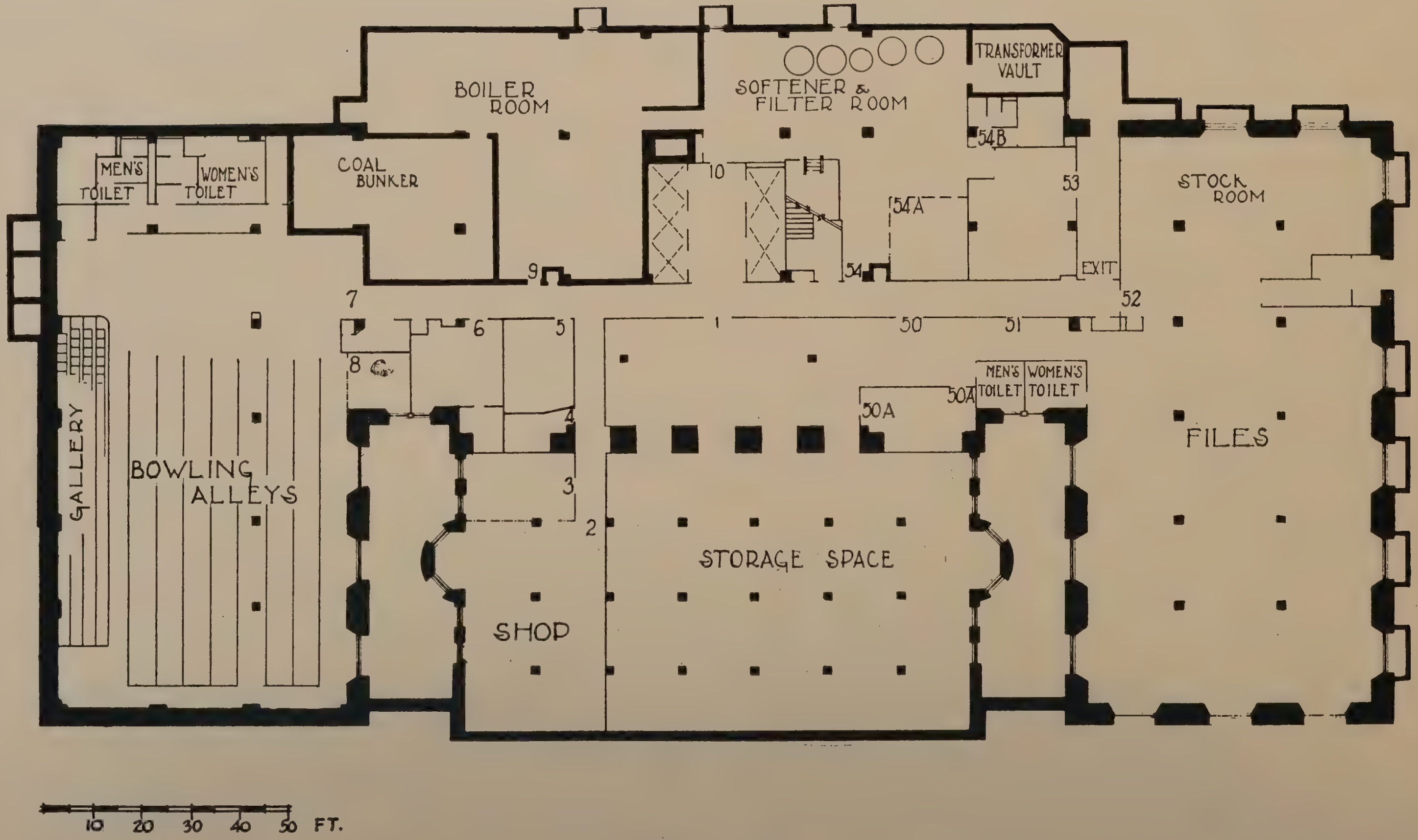
Entrance Detail

LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA

Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

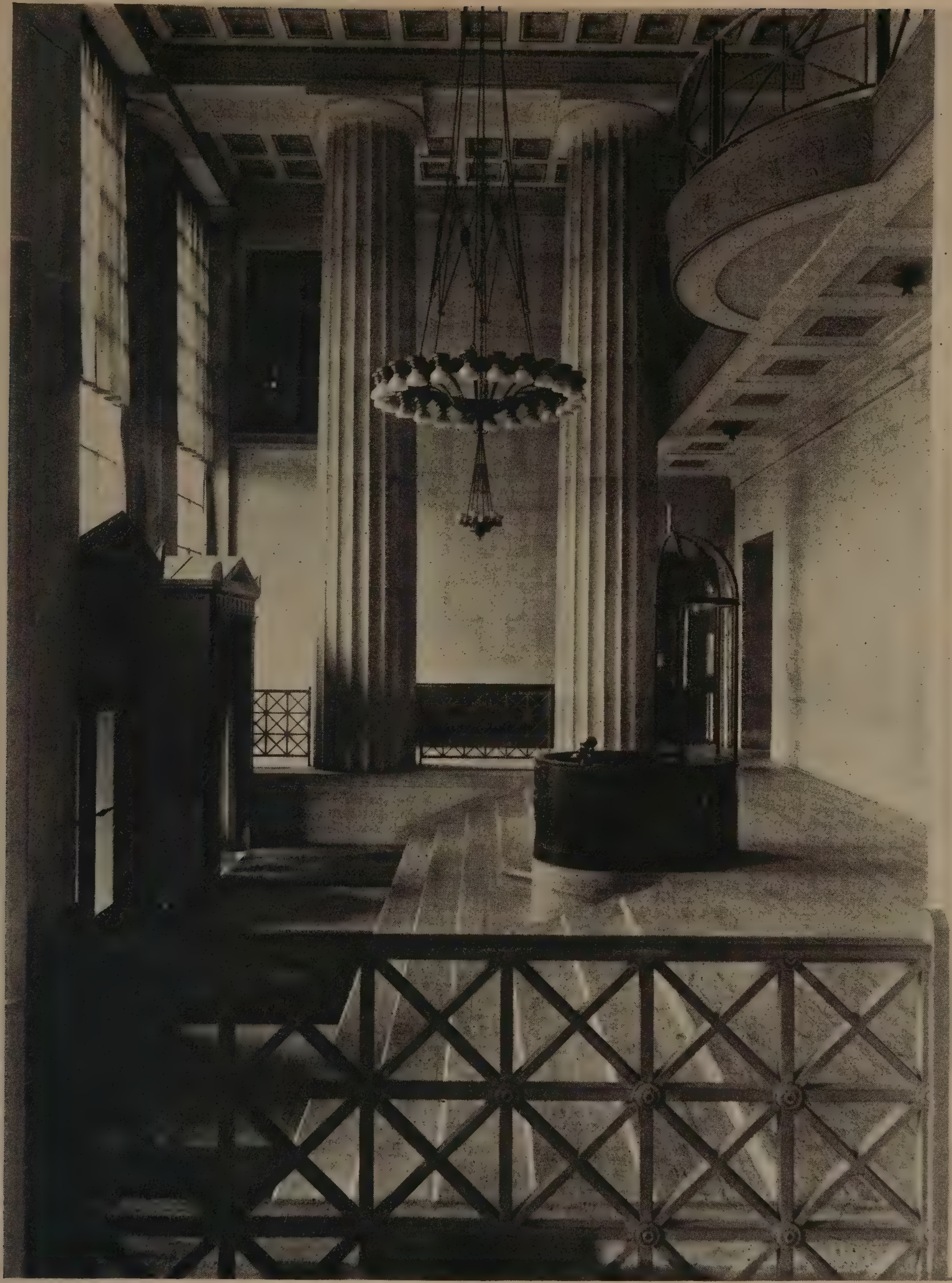
John F. Bacon,
Associated Architect (Construction)



Basement Floor Plan
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

John F. Bacon,
Associated Architect (Construction)



Photographs by Thomas B. Temple

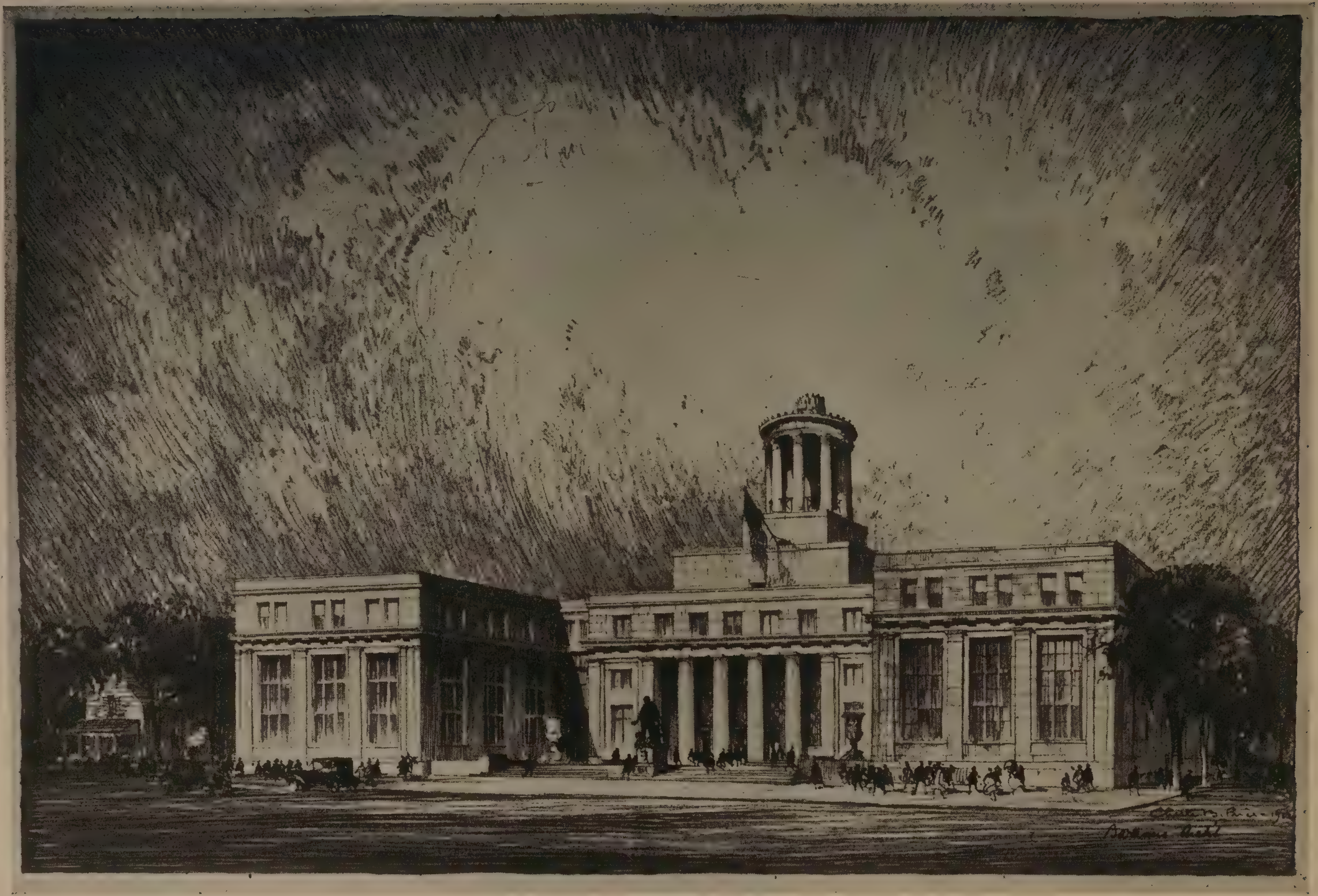
Lobby

LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA

Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

John F. Bacon,
Associated Architect (Construction)

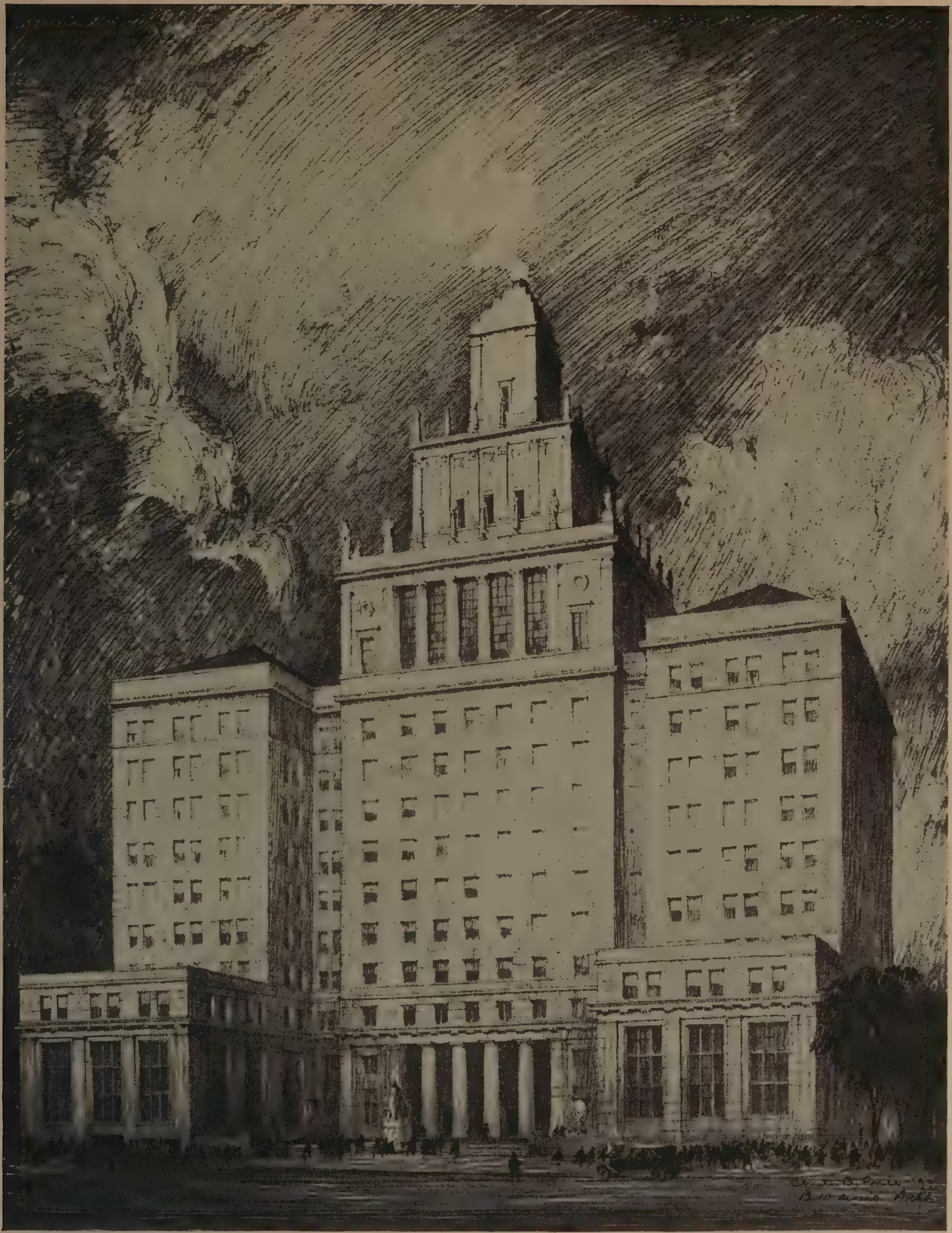


Photographs by Thomas B. Temple

Perspective of First Construction
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

John F. Bacon,
Associated Architect (Construction)



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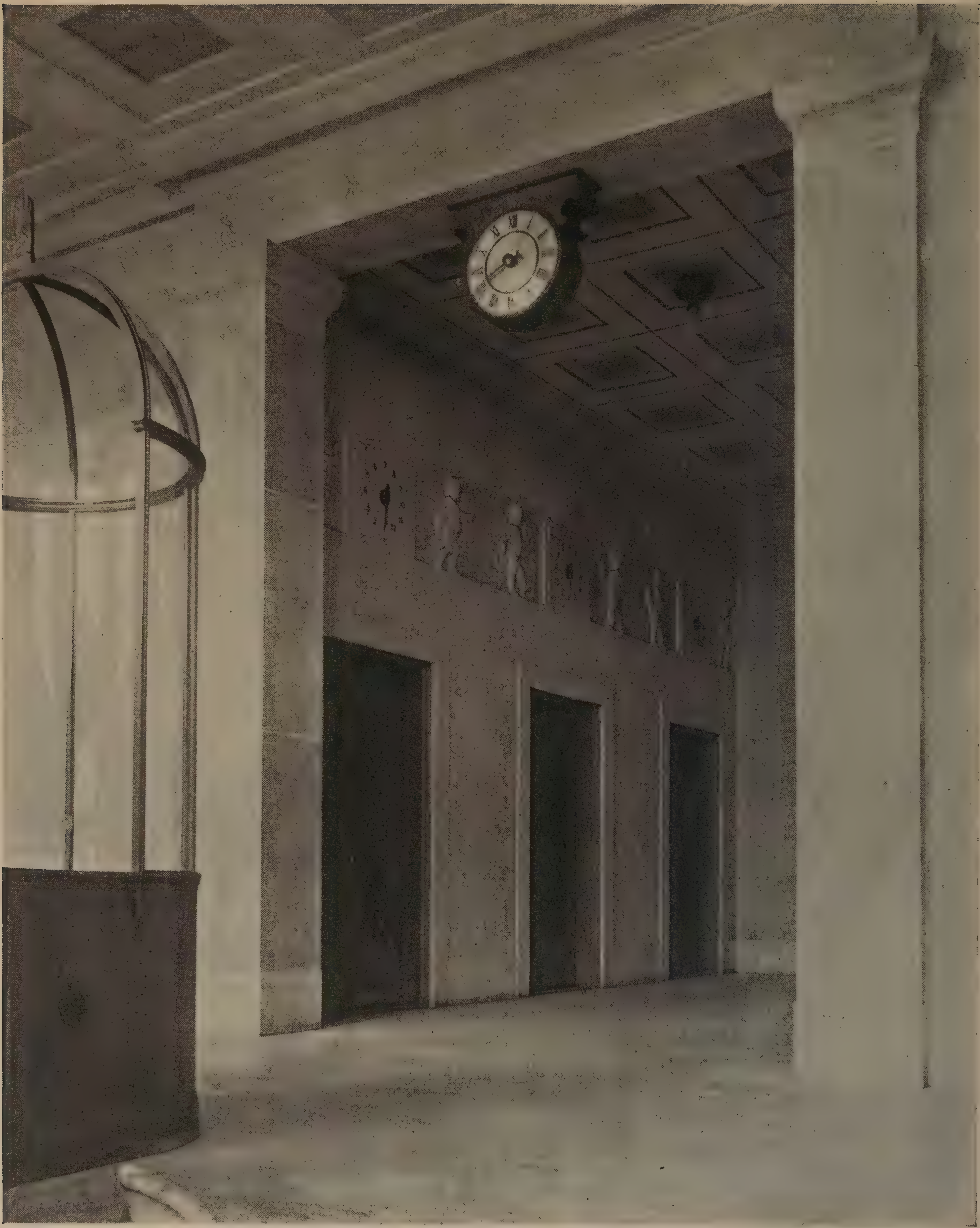
Perspective of Completed Building
LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA
Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

John F. Bacon,
Associated Architect (Construction)



Photographs by Thomas B. Temple

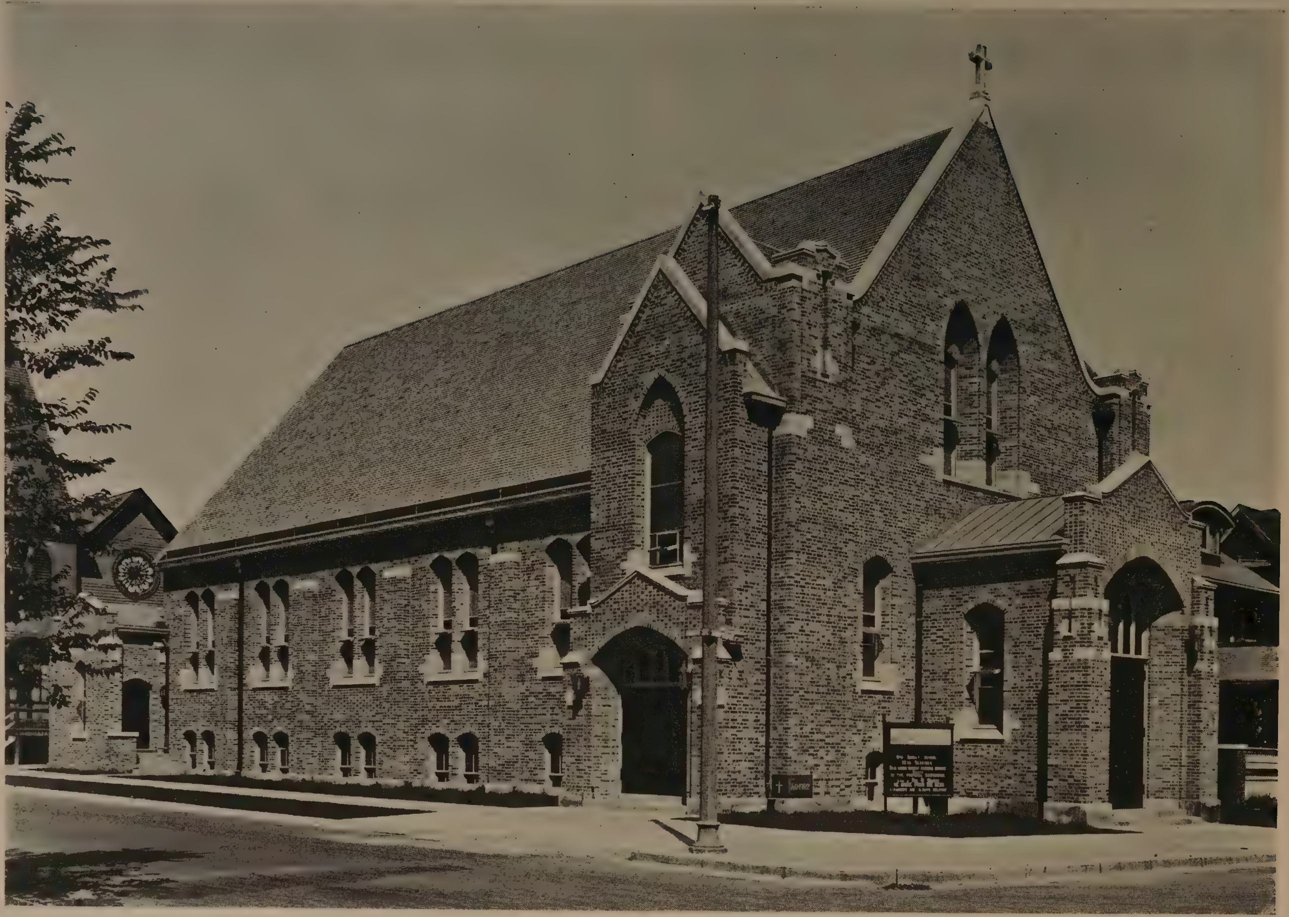
Elevator Lobby

LINCOLN NATIONAL LIFE INSURANCE BUILDING, FORT WAYNE, INDIANA

Benjamin W. Morris, Architect

Thomas H. Ellett,
Associated Architect (Design)

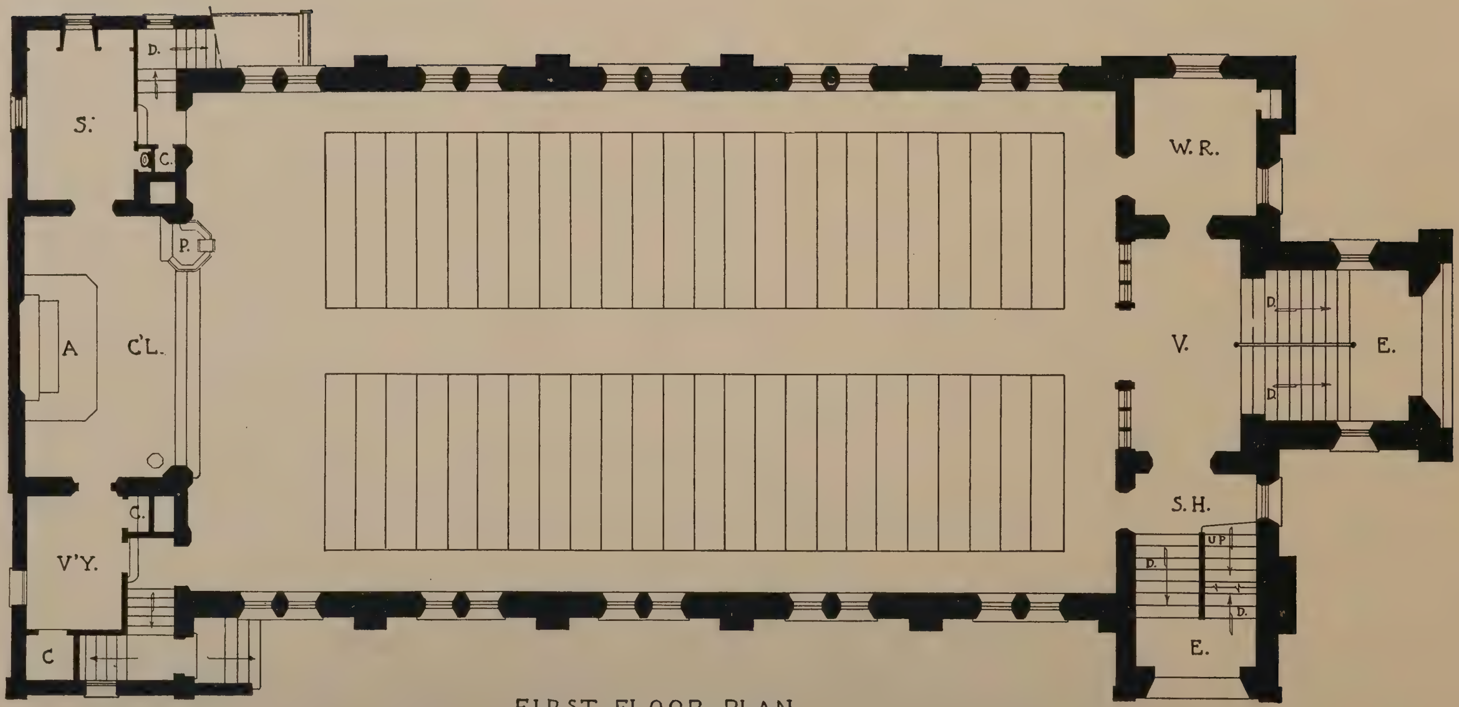
John F. Bacon,
Associated Architect (Construction)



Façade

LAYTON PARK LUTHERAN CHURCH, MILWAUKEE, WISCONSIN

Brust & Philipp, Architects

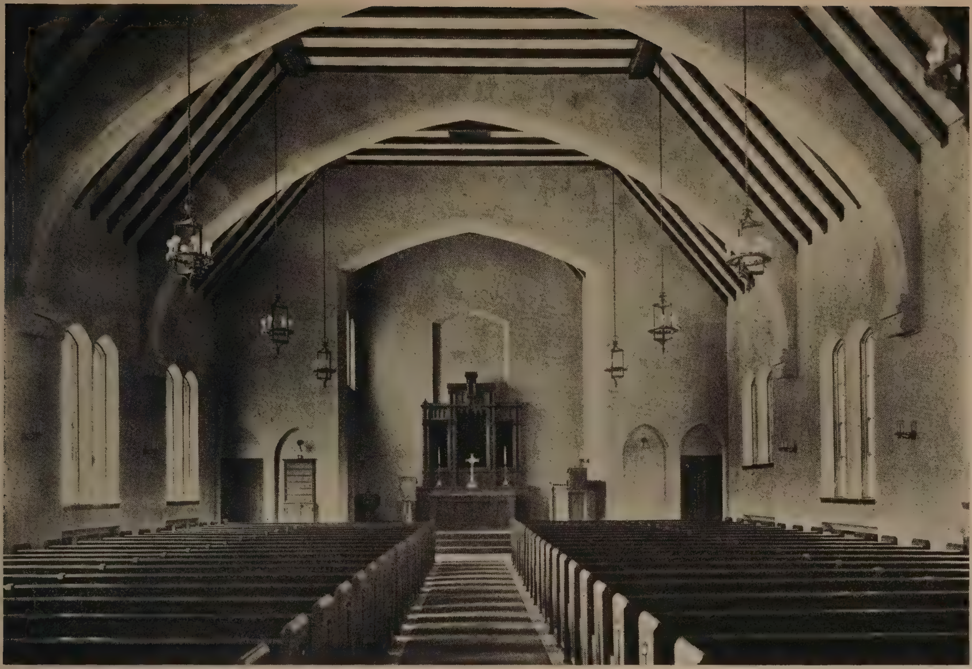


FIRST FLOOR PLAN.

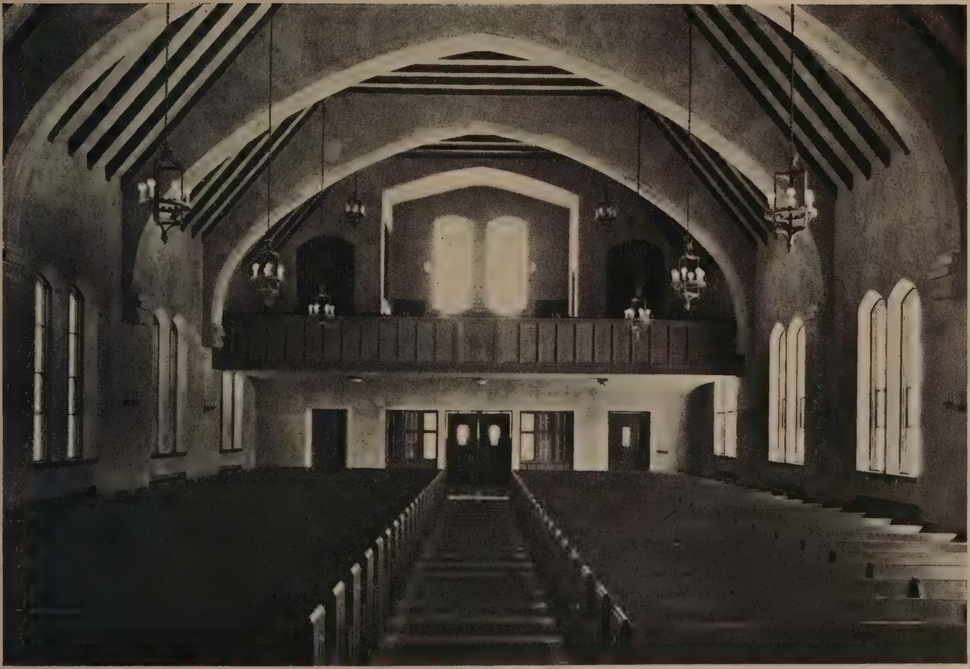
Key

A	Altar
C	Closet
C'L	Chancel
E	Entry
N	Nave
S	Sacristy
P	Pulpit
V'Y	Vestry
V	Vestibule
S'H	Stair Hall

LAYTON PARK LUTHERAN CHURCH, MILWAUKEE, WISCONSIN
Brust & Philipp, Architects



View Toward Altar



View Toward Entrance

LAYTON PARK LUTHERAN CHURCH, MILWAUKEE, WISCONSIN

Brust & Philipp, Architects

LOW RENTAL HOUSING

"COMMUNITY PLANNING" AND THE "UNIT" SUBURBAN GROUP APARTMENT

By

Frank Chouteau Brown

On crowded, expensive city property the apartment building has been proved the only economical means for providing housing accommodations on an adequate, commensurate scale. In any country location where land values are negligible, the apartment is not the natural and best living accommodation, except, as we showed last month, for taking care of the very small family and upon the lowest possible cost basis. In such locations, the semi-detached single house, or the semi-detached two-story tenement, often becomes an allowable and valuable low cost housing, especially adaptable to milling towns, either north or south.

But what about the suburb, the smaller community closely related to and more or less socially and economically dependent upon the larger city? Or what is to be done in the smaller city where the pressure of conditions has not as yet assumed the force of the larger metropolis? Here again the apartment, but in a less restricted fashion, should offer a readily available means of lowering housing costs, if properly designed and administered.

Although the land values of the city are greater, apartment house development is likely to retain the same proportionate relation to that in the suburb, because the scale of the whole operation is proportionately adapted to the entirely different set of controlling conditions.

This proportionate relationship was gone into somewhat last month, and probably at sufficient length for our present purpose. Yet, we in America are hampered in outlook because we have become too much accustomed to what has "always been done" and are often entirely blinded to possibilities apparent to an eye coming more freshly to view our particular problems.

How have most of our cities and suburbs been developed? What have been the motives dominating city and town planning? From the more exclusive "Back Bays" and "Murray Hills" to the "North Ends" and "East Sides" with most of the diverse classes of property lying between, we will find the land was originally secured in large blocks, and laid out and built up by realty "operators" and speculative builders, whose entire interests have always been the purely selfish ones of putting as little money in and getting as much out, and as quickly, as possible.

The lots have been as constricted as could be managed, the streets as near together and as straight as possible, the buildings as cheaply built and as commonplace as could be devised, and then the sales made as rapidly and at as high a price as the traffic would stand. This process can only be successfully executed provided certain underlying conditions are understood and made use of by the operators concerned.

First, the land is selected from the expanding districts, or from the districts beside or between streets already assured as business or residential thoroughfares. The use made of the property is not generally the wisest and best, but almost always the most obvious. If stores have been previously successful in that locality, more are built, even though there may be enough already. If dwellings of a particular type have been taken up quickly, then others, it must follow, will be erected on the adjoining property. Often, a more discriminating judgment, one concerned with the needs of the whole community, would decide that a more permanent arrangement might be effected, perhaps of combining stores, dwellings, and offices, as well as factories, on some parts of the land thus being forced into use by the public. The selfish ends of the developing operators would often thus be best served, and also the necessity to dispose of the property quickly, quite aside from the probably limited means of the builder —for a short term of idleness after completion will frequently eat up a large slice of the estimated profit on the whole venture. Such considerations will generally cause the reduction of the size of the lot and the cost of the building to a point where the operators will feel fairly well assured, merely because of the mathematically larger buying public that can then be interested, that they will thus be able to quickly dispose of the whole investment.

It is these considerations that have developed so many of our American cities and their suburbs in ugly, cheap, and often inappropriate ways. After the property is once disposed of, it means a large expenditure for upkeep by the new owners, and a rapidly depreciating investment, both in appearance and actual value, and, generally, another large waste in its partial or entire rebuilding, when the character of that part of the city changes a little later. Consequently, a considerable part of the economic loss entailed falls upon the subsequent holders of the property, as well as all the citizens of the community who have been cheated out of its fair valuation and a long term return upon stable taxable values.

Most developments actually fail to make any eventual profit to the operators, generally because of the length of time necessary to conclude the operation, during which period the taxes, interest, and other carrying charges of the unsold portion are likely to have eaten up all the estimated profit that might otherwise have been made had the operation been handled fully and at one time, or in several definite sections.

Many others fail because of unnecessarily heavy expenses encountered in developing a property; for instance, laying straight streets over rolling landscapes, or continuing to build conventional and unsalable constructions in locations where they will be neither as acceptable nor as economical as other, better-planned types. Even yet it remains a fact that far too large a proportion of city building of this kind is done without the advice of the landscape architect or city planner on the one hand, or a properly trained and experienced architect on the other. Far too much of it also is done by uneducated, untrained operators and builders, with too little capital to operate economically, and with too narrow an outlook.

So much for the venture of the individual. Have we been any more successful in experimenting by means of the operating company or corporation, the municipality or the government? With the first parties to this query we have already dealt and it would appear that, thus far, not much has been done in that way to provide encouragement. But, as a matter of fact, we may have been unjust to the several well managed and effective limited-dividend companies that have already accomplished most of what has been done in this country to cope with the problem of supplying good standard low-cost housing. Included in this group would certainly be the "City and Suburban Homes Company," "Open Stair Dwellings Company," and others, whose work in New York and vicinity is already well known. These very companies are now practically helpless when confronted by the increasing costs of property and building, and the many new laws and limitations surrounding operations of this type, and they too will be more and more handicapped.

We have also seen that not much has been done in this country by either city or state, to ameliorate these conditions, although here too there remains something to be told. The Government, also,

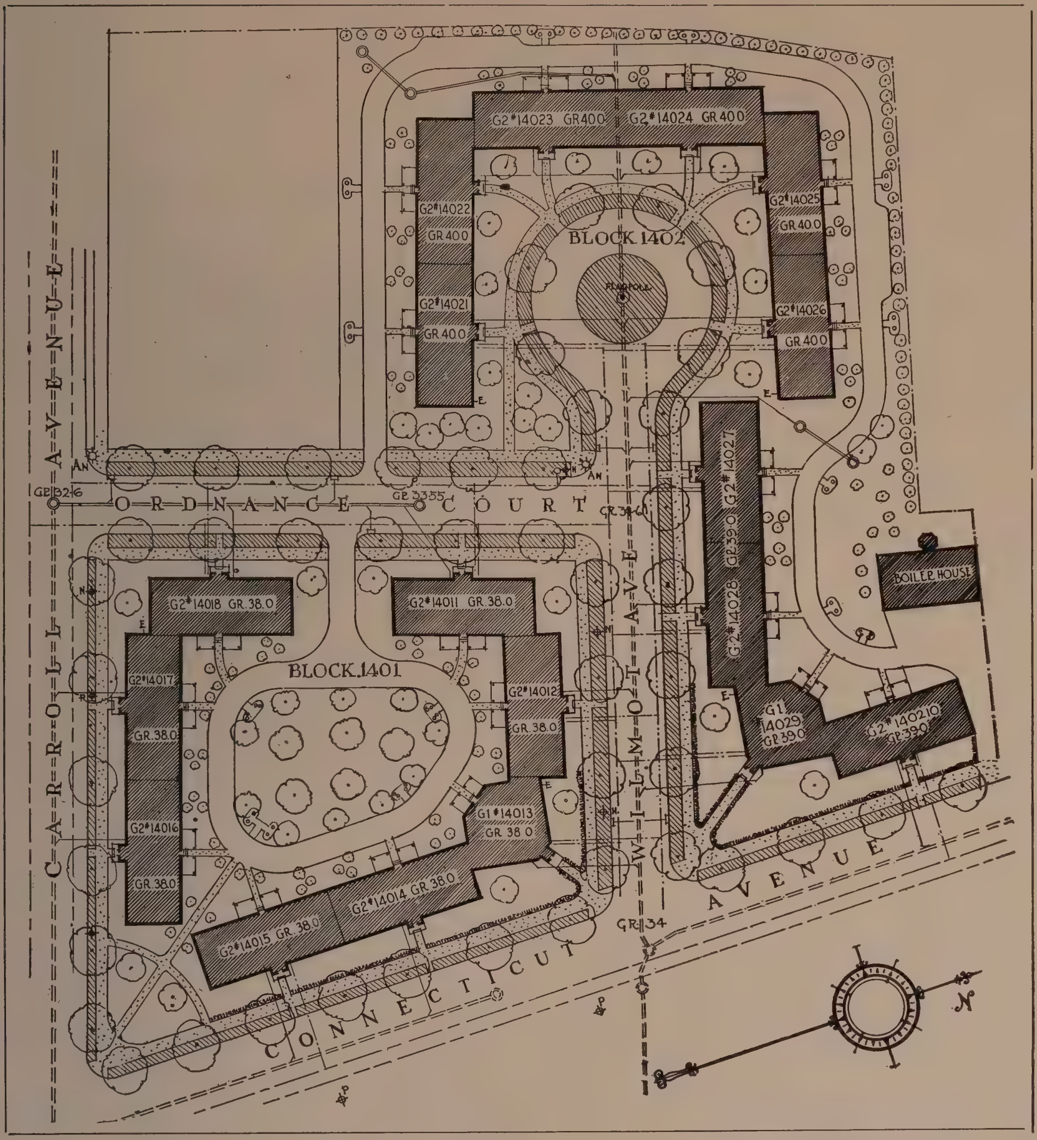


Fig. 31

PLOT PLAN—CONNECTICUT AVENUE DEVELOPMENT, BRIDGEPORT, CONN.

R. Clipston Sturgis, Architect
Arthur A. Shurtleff, Town Planner

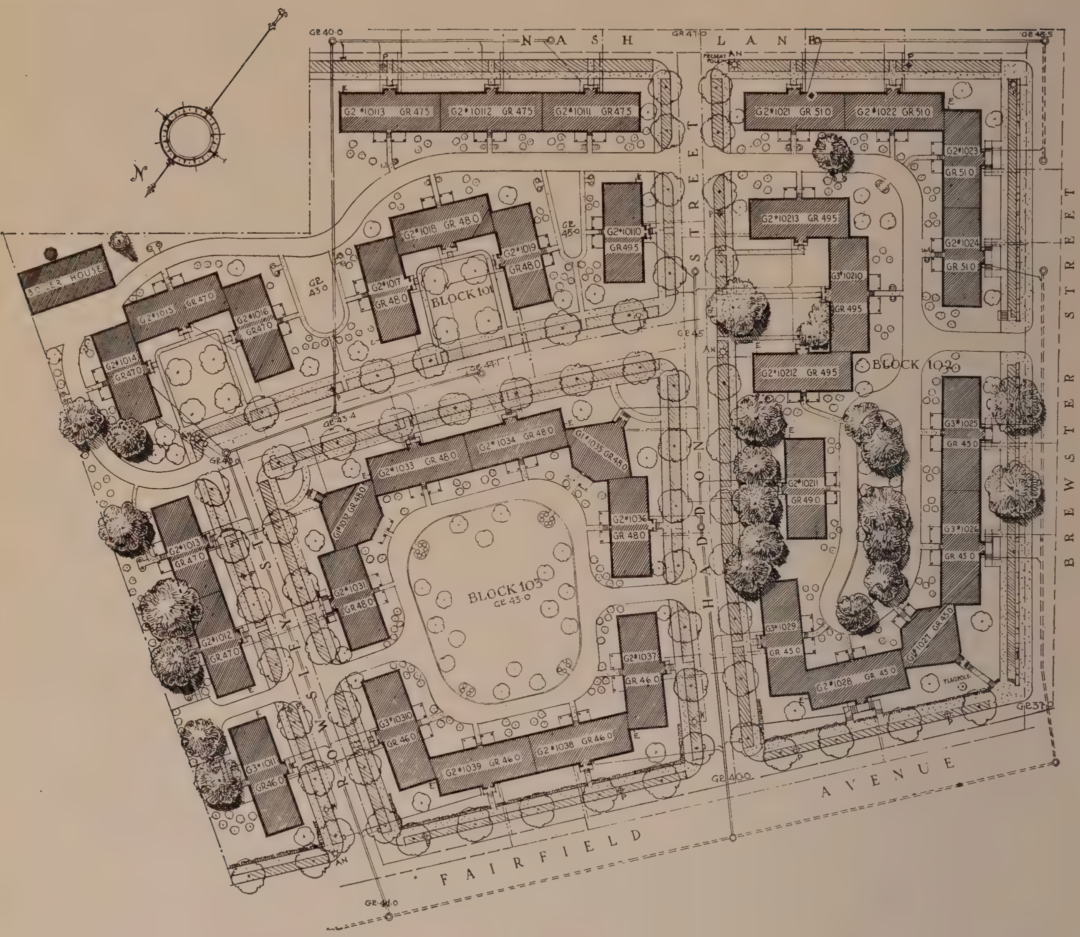


Fig. 32

PLOT PLAN—BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT
R. Clipston Sturgis, Architect
Arthur A. Shurtleff, Town Planner

has been mentioned, and here the record would have been entirely blank but for what was done, or attempted, as a war measure, a few years ago.

Once again we have little that can be pointed out with great pride, or that can help us in facing the economic situation. It is true we accomplished a great deal in a short time, at a few important locations, but with a waste and extravagance on the one hand, and a lack of understanding and knowledge on the other that has not been realized yet. Only when we turn to these records in the endeavor to find some help in the present instance, do we realize the true extent of our loss. We might have found in this work much of value and advantage in dealing with the problem, for these ventures of the Government were made in various sections of the country, and on a scale that had hardly before been attempted by private enterprises.

But the hit-or-miss manner in which the Government undertook to meet the matter of housing its war workers was no more wasteful nor ill-conducted than the manner in which it squandered money on other useless, and even harmful, war measures.

The results which showed that some war housing ventures turned out satisfactorily in planning and arrangement while others proved unadaptable to their purpose, were due to the accidental manner in which the contracts were let. Some houses were built to meet actual conditions; some were not; some were designed to produce an attractive community group, some as decidedly were not; depending largely on the interest and enthusiasm of those in control. Some are laid out as squarely and rectangularly as our most perfect examples of the "gridiron" plan. Others have been given as charming and irregular contours as opportunity allowed; and again at the whim of those concerned rather than from any settled policy on the part of the Government. Therefore, we are utterly unable to derive any economic advantage from these experiments; they have all been accomplished without leaving us a basis of cost or practical experience. Especially do we fail to find any help in discovering the solution of the housing of the low-paid laboring classes.

Throughout the war the Government ruthlessly worked on the established policy of ignoring the conditions under which unskilled labor lived. It was concerned merely with catering to the demands of the higher paid groups; the lower paid laborers always came from somewhere, in sufficient numbers when needed. It neither cared where they lived, nor how. Government housing provides us with few suggestions in regard to the tenement or apartment type of plan.

We found for illustration two months ago a type of apartment for the better class of labor required in Government ship building at Newport News, that covered about 50 per cent. of the area required for each unit, and that unit was apportioned on the scale possible of adoption for the suburban site, where land values are on a more modest basis.

This month we illustrate another type of Government war housing, for a still better class of workers; an arrangement of apartment buildings grouped in an unusual manner to meet even a more difficult set of conditions than usually confronts a development of this sort. In some ways it more nearly meets the community conditions generally found surrounding the land improvement attempted by the real estate operator, only its method of development was here established by more skilled advice than is usually called in by the developing builder, and with interesting and suggestive results.

Two different sized plots of ground (Figs. 31 and 32) are concerned in this experiment, both representative of such large estates as are frequently encountered in the suburbs of any growing city and are constantly being absorbed into the developing community, but generally only at the expense of the appearance of the neighborhood, as new streets are run through the property and its old trees are cut down in the strange interests of "progress" and business growth.

In this instance, the Government got possession of several different tracts of land in Bridgeport, Conn. In the smaller, known as the Connecticut Avenue tract, (Figs. 31 and 33), the boundaries were so circumscribed that the designer had no opportunity to do anything out of the ordinary. He nevertheless succeeded in obtaining two different groupings of units around an irregular "Courtyard," and an "L" shaped unit, utilized to balance the entrance to the property from the principal bounding avenue. The second area known as "Black Rock," (Figs. 32, 34, 35, 36, 37 and 38), while larger, is still too circumscribed for the best and freest treatment. It appears from the records of these developments that neither plot required any great amount of grading, or distinctive variations in development, but one of them contained a number of well grown shade trees, and, to a considerable extent, the successful treatment of this group is dependent upon the manner in which these old trees have broken the severe lines of the architectural arrangement, while the companion tract, lacking these trees in the first instance, appears in the photographic views as bare and uninteresting by contrast. Both plot plans (Figs. 31 and 32) show that new planting was to aid in the final values of these properties, but up to the time these views had been taken the actual growth of the new trees had not been sufficient to add any great visual interest.

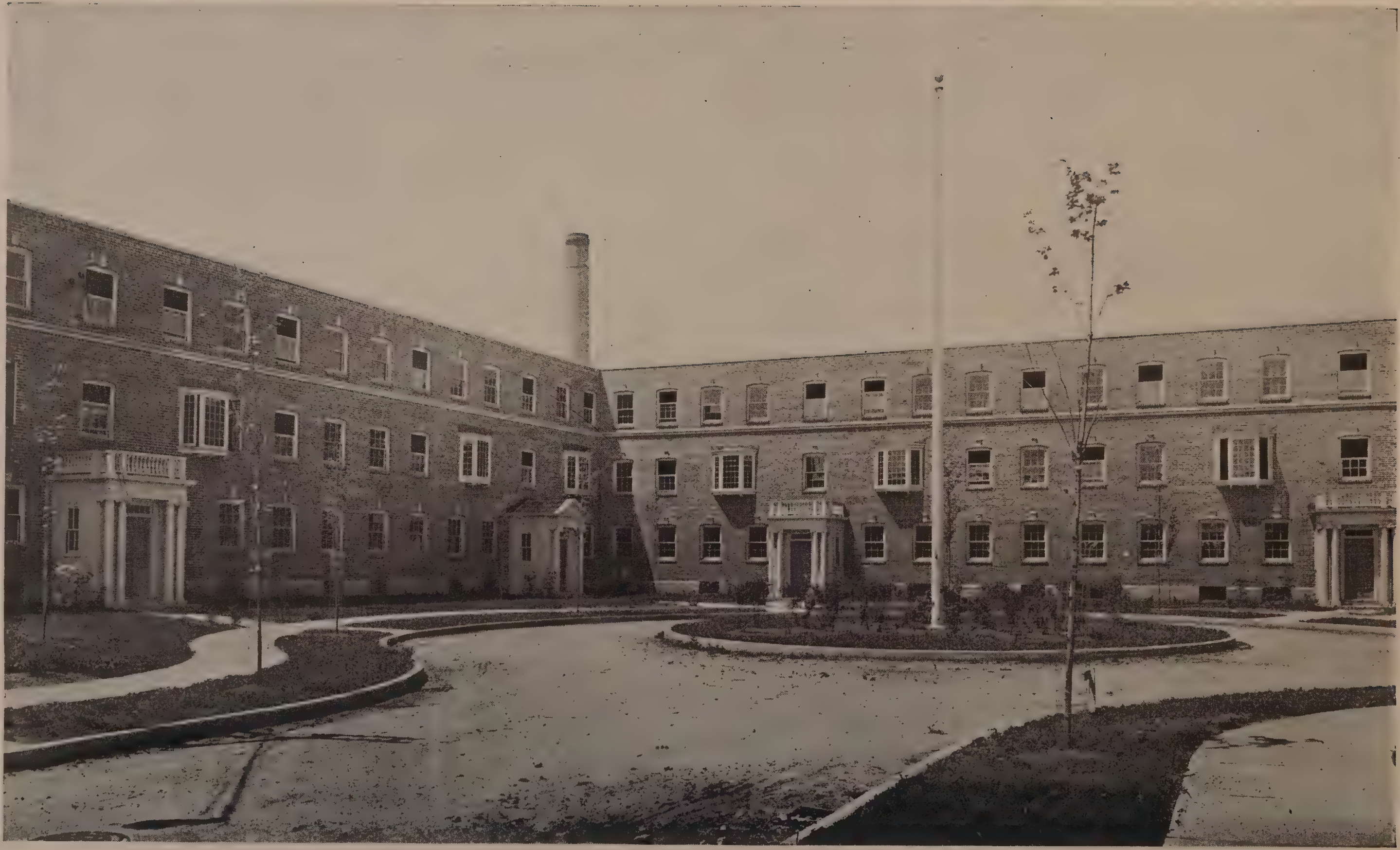


Fig. 33

INNER COURTYARD—CONNECTICUT AVENUE DEVELOPMENT, BRIDGEPORT, CONNECTICUT

R. Clipston Sturgis, Architect

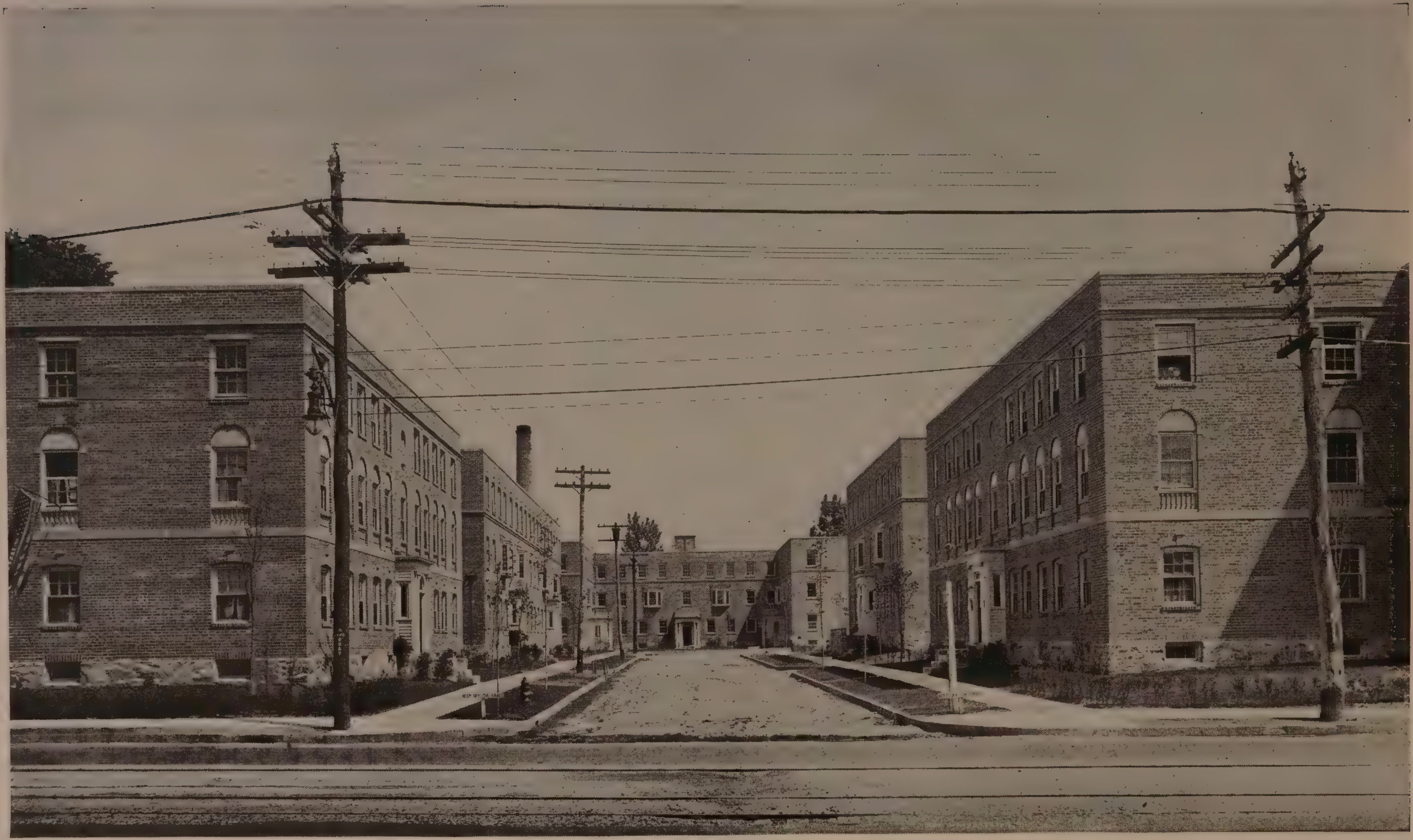


Fig. 34
View down Rowsley Street
BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT
R. Clipston Sturgis, Architect

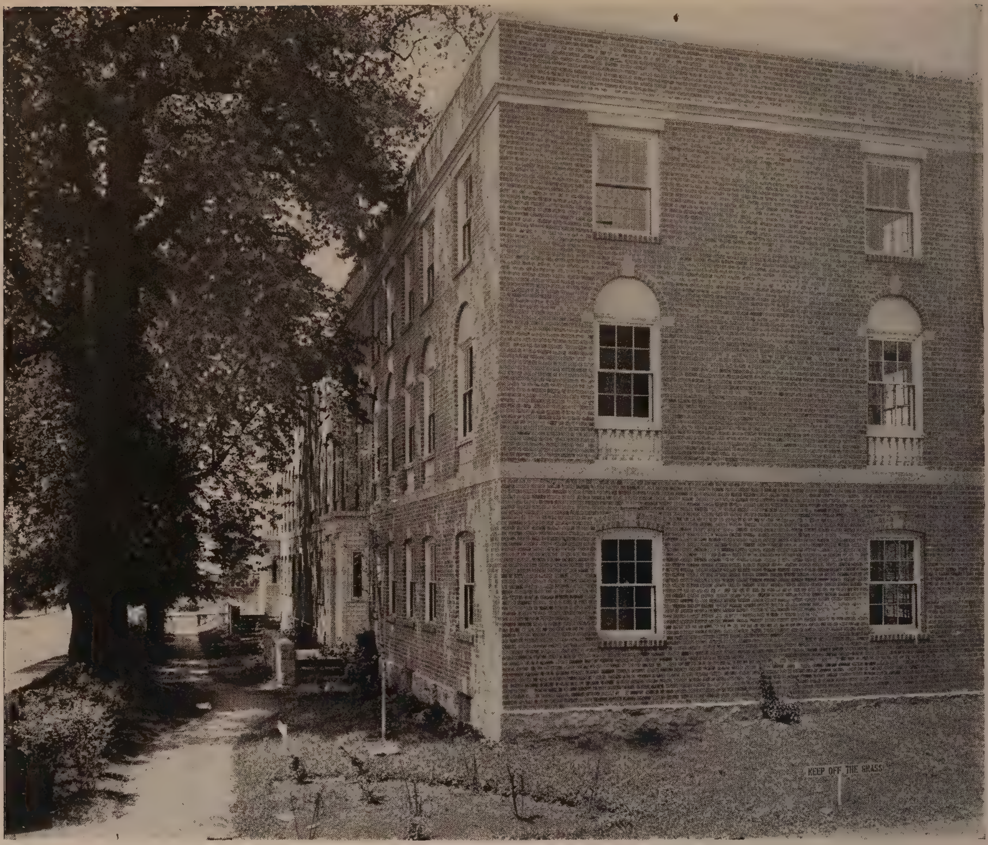


Fig. 35
Apartments on Brewster Street
BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT
R. Clipston Sturgis, Architect

The Black Rock development is also more interesting because of the utilization of the natural contour of the land, especially on the street frontages. That is, while the Connecticut Avenue community is limited by a smaller area to two courtyards and a "half-courtyard" in the shape of the "L" at the right of the entrance roadway, the arrangement of units in the Black Rock plot is much better calculated to add variety to all the street vistas, in one instance, by placing the residential unit at an irregular distance from the street. Who can doubt but that the comparative coolness and restfulness given these apartments (Figs. 35 and 37) in summer, with freedom from dust and dirt, would make them more appreciated by the tenants; a feeling amplified by the fact that in both cases these apartments benefit from the old trees retained in the inner service court that appears to such advantage in the view shown in Fig. 36.

Most of the value of these particular examples lies in their better plan arrangement by units, the "city planning" science that has been utilized in arranging these plot plan layouts. Yet this is the very part that is so often entirely ignored. In all the long list of "mill villages" for instance, has advantage ever been taken of the contour of the land in planning a housing layout? If so, it has succeeded in escaping public attention. New England, in a long list of Corporation Housing developments, from Lowell, founded

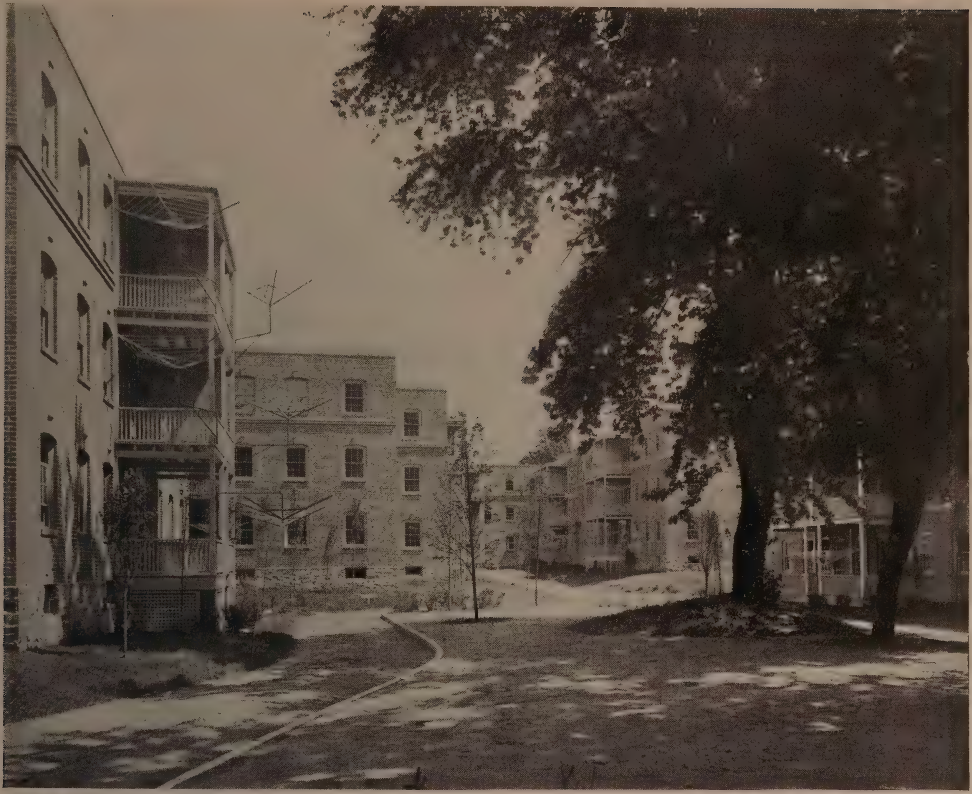


Fig. 36
Inner Service Courtyard back of Brewster Street
BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT
R. Clipston Sturgis, Architect

in 1820, to Shawsheen Village, founded by the American Woolen Company near Andover, Mass., nearly one hundred years later, shows no notable recognition of the possibilities of this factor. In many cases considerable expense has been undertaken to destroy the natural charm of irregularities and to force the landscape to conform to the more costly monotonies of the rectangular "gridiron" plan.

In Europe, however, for some years it has been recognized that the irregular advancing and setting back of dwelling units from a uniform street or building line is a distinct advantage, both in bringing sunlight and air to adjoining dwellings and in increasing the beauty of the building. It also lessens the monotony resulting from building a large group of structures from similar plans and with similar materials.

The "Black Rock" plan, (Fig. 32), shows us how this element can be consistently introduced into even a small development, and it is possible that even here it could have been improved further by the use of some more consistent outline than the large rectangular courtyard found in "Block No. 103." Probably the fact that a greater number of families could be accommodated at this point in the plan, made for the introduction of a courtyard block, whereas if the area of the plot had been greater, it would not have been necessary to restrict the plan at this one point.

The use made of the land in these smaller community areas at Bridgeport is

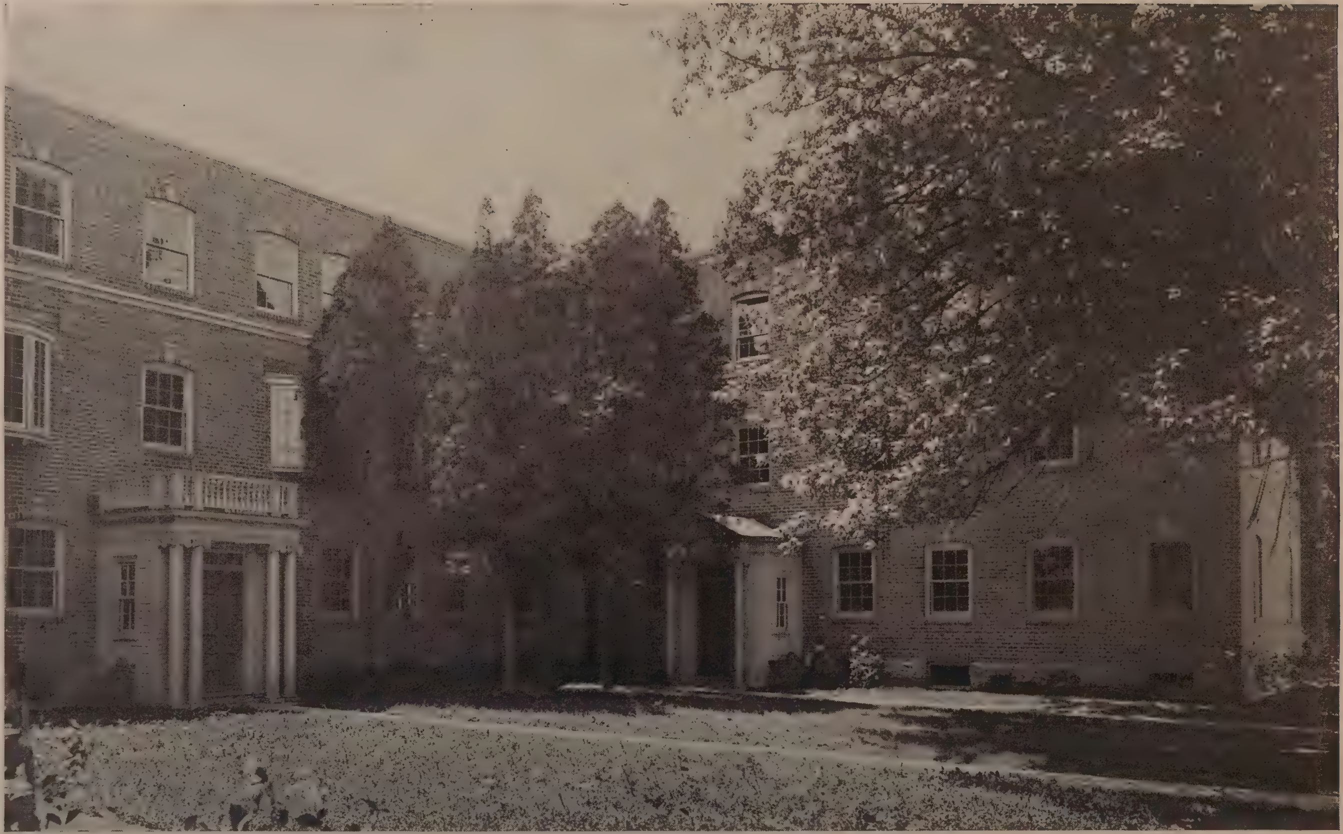


Fig. 37
View in Forecourt, "E" Shaped Apartment Unit
BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT
R. Clipston Sturgis, Architect

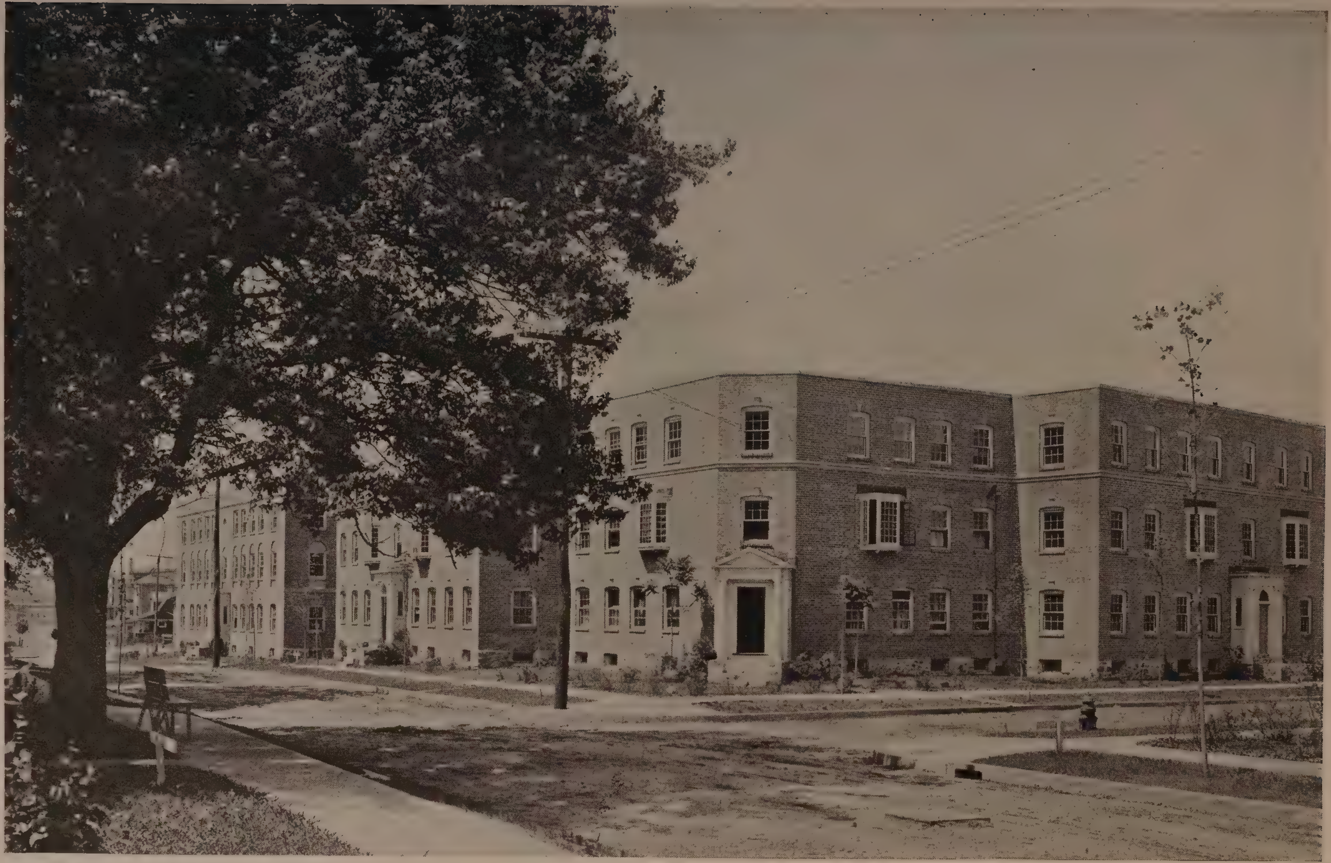


Fig. 38
Corner of Apartment Group, showing Three-Room Apartments
BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT
R. Clipston Sturgis, Architect

in many ways of more assistance to the ordinary real estate improvement project that most of the other Government experiments. And for the first time in this series, has it been possible to indicate something of the importance of relating the new science of "City planning" to such dwelling projects, a matter that can otherwise only be illustrated by turning to foreign examples. In any locality where land costs are not too excessive, and where plots of ground of sufficient areas are still available in the old estates prevalent in every growing American suburb, some such improvement scheme could be adopted to great advantage.

And now we may turn to the architectural scheme on which these housing units have been based. The problem was to combine three, four and five-room apartments, in as uniform a method of treatment as was possible, without undue expenditure for changes in dimension and structure or design, and yet to maintain an effect of harmonious architectural variety about the entire area. To effect this, the architects first studied the problem of the apartment until they had arrived at a perfectly acceptable and economical "unit" of plan, at least as far as the four room apartment type (Fig. 39), the unit principally used, was concerned. A unit double in width was established, as well as the interrelation of these units with each other, particularly at right angles, both projecting and retiring from the principal street front. The result was the "E" and "L" shaped units, of which the entire development, and the courtyards of outer and inner types, are composed.

The five-room apartment (Fig. 40) was merely a lengthened four-room unit, without changing in any way the structural dimensions upon which the framing of these units was based. In all ways it conforms to the main architectural details adaptable to the four-room type, with the same staircase, pantry, kitchen and bathroom arrangements and details, demonstrating the advantages of "standardization" in finish, and in construction shapes.

Only the three-room apartments (Fig. 41) are distinctly a different plan-type, and here the reason was the obvious desire to have only a few units of this smaller size, and at the same time break up the angularity of the block corners, particularly in the rectangular "courtyard" plans, thus introducing a pleasing element of irregularity into the hardest and most irreconcilably rectilinear of the architectural forms adopted for the whole project. The result appears in Fig. 38. This recessed or "set-back" corner also increases the range of visibility at the intersecting streets.

Both parcels of land were so laid out with new streets as to provide a series of buildings containing uniformly arranged apartments of different sizes. Each group was heated by a large central plant, and located directly on or immediately off important thoroughfares; both also so arranged as to have a set of communicating service driveways in the rear of the apartments.

In the smaller plot there are a total of 16 double units of four-room apartments, each unit containing six apartments, or 96 in all, arranged in two courtyards and an "L" or "half-courtyard" group. The two double units of three-room apartments occur on each angle of the principal entrance to the plot, include twelve apartments of that size, and are recessed so as to give a certain openness of effect at this entrance, and allow a broader outlook toward the principal street from anywhere within the group. By reference to Fig. 31, the arrangement of the whole and of the various units will at once be made clear.

The larger development at Black Rock, contains in all twenty-seven double four-room units, five double five-room units and two double three-room units, a total of two hundred and four apartments in all. Their group arrangement will again be clear after reference to Fig. 32, and the appearance of both sections is well shown in Figs. 33 to 38 inclusive. The three floor plans, showing the different arrangements of the three types of plan "units" (Figs. 39, 40 and 41) should tell the rest of the story. They show three simple and convenient dispositions of the

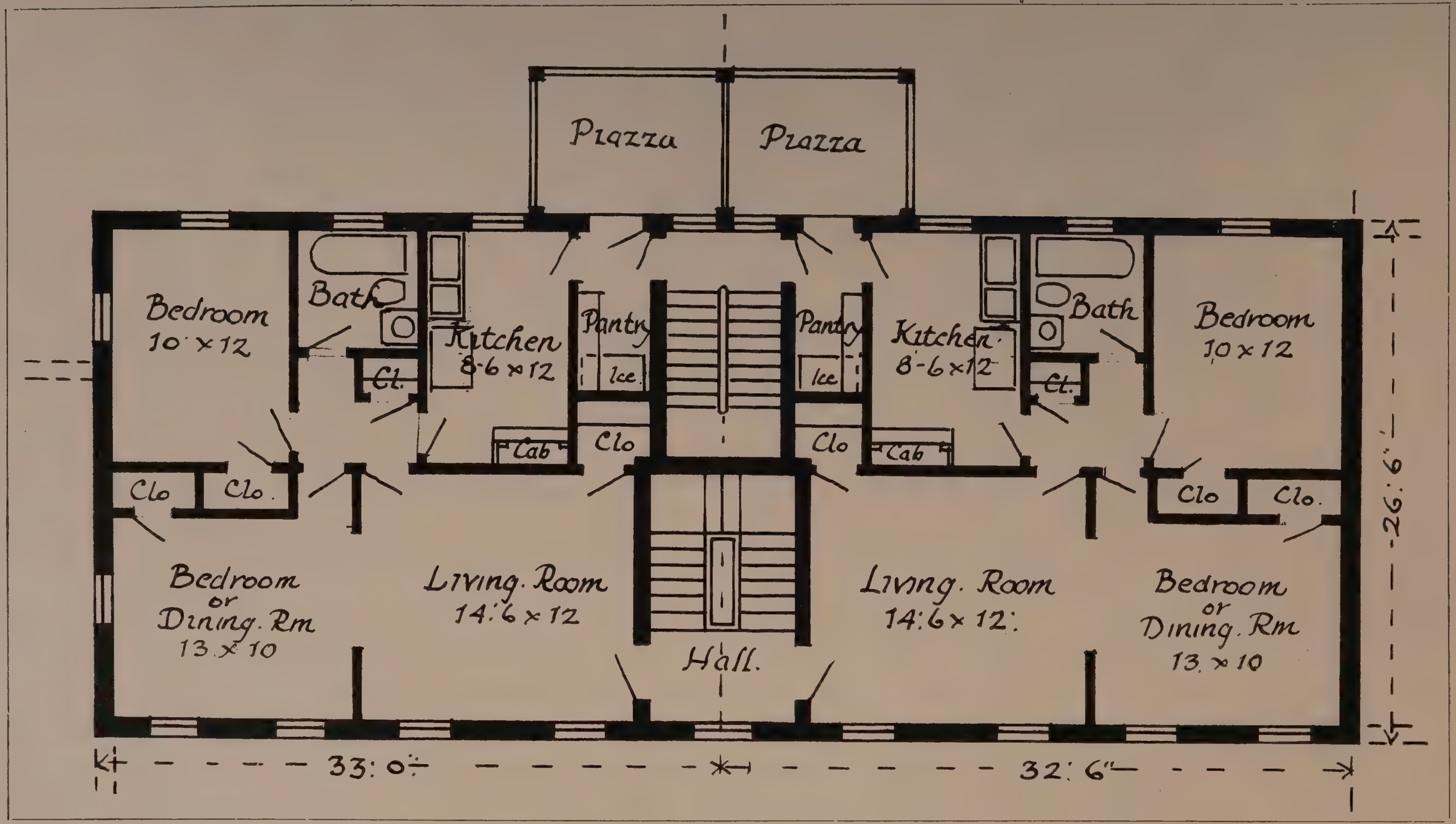


Fig. 39.

PLAN OF FOUR-ROOM, DOUBLE WIDTH APARTMENT BUILDING, BRIDGEPORT, CONNECTICUT

R. Clipston Sturgis, Architect

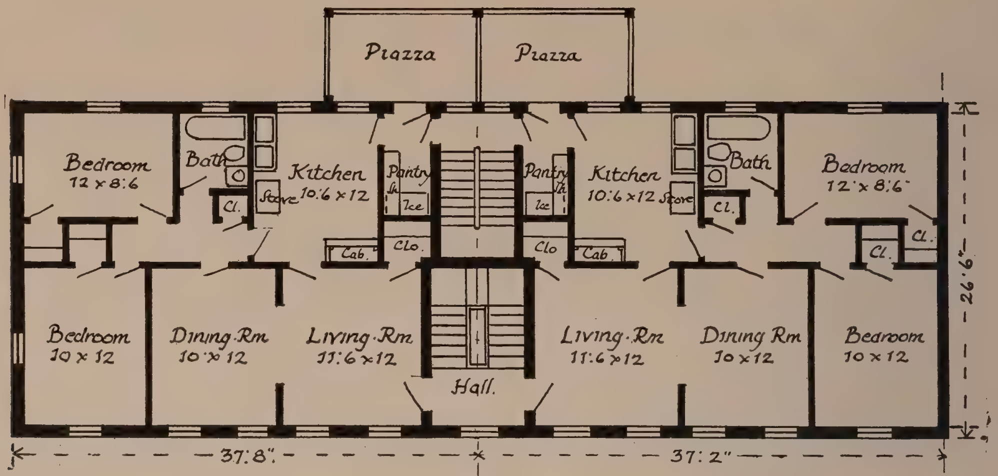


Fig. 40

Plan of Five-Room Apartments, Double Width Unit

BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT

R. Clipston Sturgis, Architect

essential contents for a living apartment, with front and back stairs (the latter inclosed within brick firewalls) small kitchen, bath and pantry, with an outdoor piazza at the rear. As a matter of fact, these apartments are in arrangement and design, a type that would ordinarily appeal to workers above the laboring class, if built in a suburb or location where the surroundings would attract a better class, and to that extent, at least, would be likely to pass easily out of the "low cost housing" into the "investment" class of improved property.

The repetition of the same elements tends to hold down the construction costs, while all appearance of monotony on the exteriors has been skillfully avoided by the varied groupings of the different units, and by certain simple architectural variations in details. These variations are apparent in the pictures, in the different types of entrances, the slightly different handling of windows and cornices, and the gradual simplifying of the architectural details from the buildings fronting on the important boundary streets (Figs. 34 and 38) to the inner and more secluded portions of the property.

We are unfortunately unable to give any information of value as to the actual comparative costs of construction and rental from these Government experiments, because of the way in which they were carried on. It is only possible to state the areas covered by the three types of plan employed. The three-room apartment (Fig. 41) covers 669 square feet, or 1238 to the whole unit; the four-room apartment (Fig. 39) 860 square feet, or 1720 to the unit, and the five-room apartment (Fig. 40) 976 square feet, or 1952 to the unit. From these figures and the information that the apartments are now renting for from $35 to $50 a month, it may be possible to obtain an idea as to their financial appeal as an investment proposition, once the local cost of their construction has been estimated.

Last month an attempt was made to show the relationship of property of this type to land values in the usual American community of the grade that is here being considered. To apply it more directly to one of the "E" shaped groups appearing in Fig. 32, for instance, containing 18 four-room apartments in three stories of height, it would probably work out to cost about $84,000 for construction on land upwards of $6,000 to $10,000 in value.

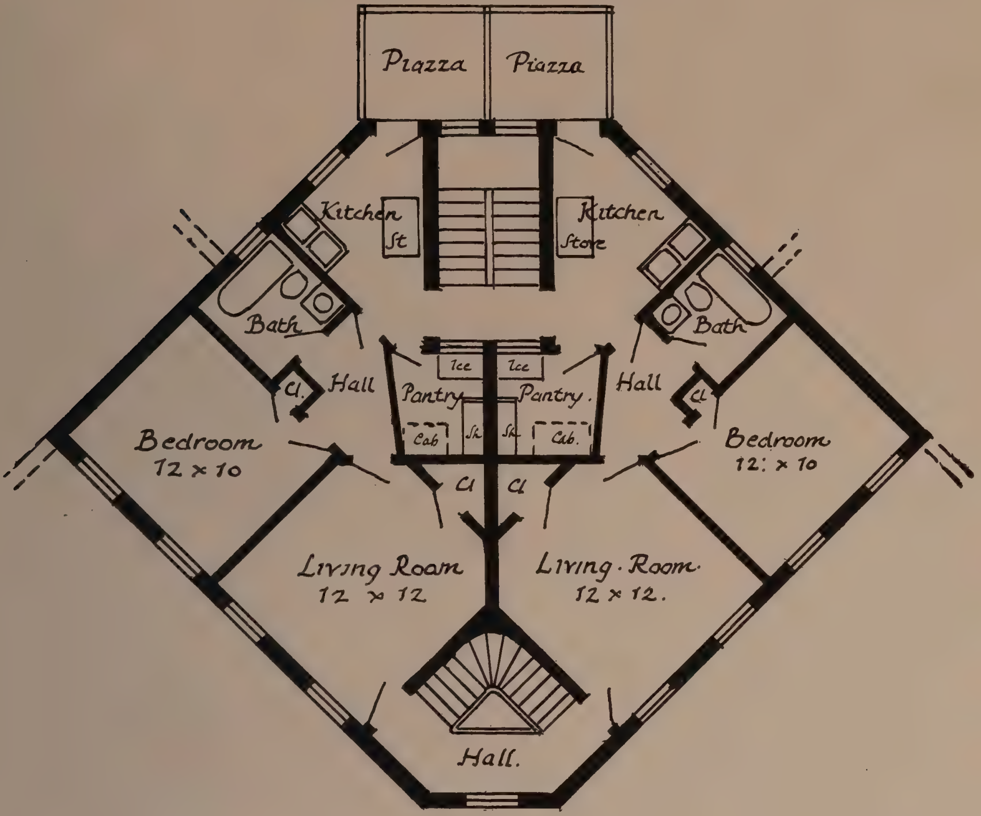


Fig. 41

Plan of Three-Room Apartments, Double Corner Units

BLACK ROCK DEVELOPMENT, BRIDGEPORT, CONNECTICUT

R. Clipston Sturgis, Architect

The income figured at $10 a room, would run about $45 a month per apartment, or $9,720 a year, a little more than 10% gross on the investment. The structure would cover about 50% of the land area, and with 72 rooms in the "E" group, would cost about $1,200 a room, or $1,300 a room including the land.

This illustrates its approximate financial basis, which would of course vary in detail in the different communities. For workingmen's housing only, it might be possible still further to decrease the initial cost of construction by reducing somewhat the sizes of the rooms and the areas covered by the buildings.

Last month we discussed the most economical type of individual village multiple dwelling, the four-family semi-detached tenement, and found it at once the cheapest and most satisfactory type that has yet been developed to suit conditions in the smaller villages of the country.

But there are other localities, nearer to our centers of population, where the problem of finding decently modern accommodations for low-rental housing is much more difficult of solution, and these are the suburbs where the living standards are high enough to generally affect the value of real estate and building. Under such conditions we can commend some such solution as is instanced by the types of apartment dwellings that have been described this month.

BRITISH INTERIOR DECORATION-FLOORS

By

Albert E. Bullock

WITH ANY SCHEME of interior decoration the limitations in cost usually necessitate confining one's treatment to the walls, windows and fireplaces only. It is to be deplored that such is the invariable use in English examples, when upon reflection it will be admitted that no scheme can be really complete which does not embrace also both the ceiling and the floor.

Unfortunately we have in England so few examples of good parquet flooring and so many modern types of wood-block floors that recourse has to be had to early French ones from the Louvre and Versailles in order to eke out the paucity of English invention in this respect.

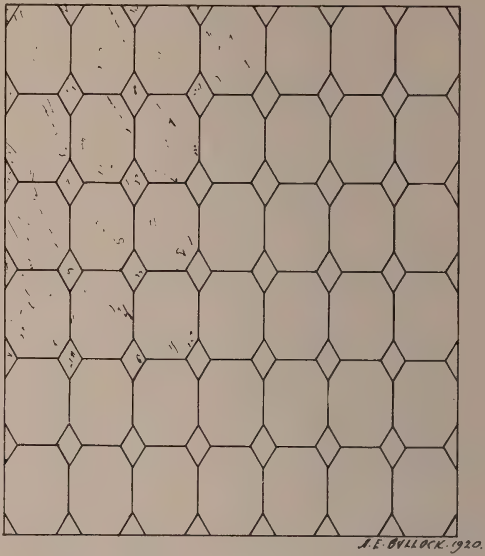
The history of the marble floor in the hall of the Queen's House at Greenwich Hospital, of which a scale drawing is here depicted, and the record of its making coinciding with the date of the erection of the house in 1639 is an interesting fact. From its form in taking up the main lines of the ceiling beams it is obvious that the whole room was designed at one time by Inigo Jones.

We have fewer authentic types in subsequent years to depend upon, but the common or simpler ones with large squares of white marble or stone flags having small black squares or diamond shaped pieces at their intersections with occasional variations in the contiguous octagonal and hexagonal patterns, typify the designs adopted in late Tudor days for leaded lights. An example of hexagonal stone paving exists on one of the landings of the main staircase at Hampton Court Palace in the wing Talman or Wren designed, and the simpler paving of the vaulted loggia to the inner Court there, is worthy of passing notice.

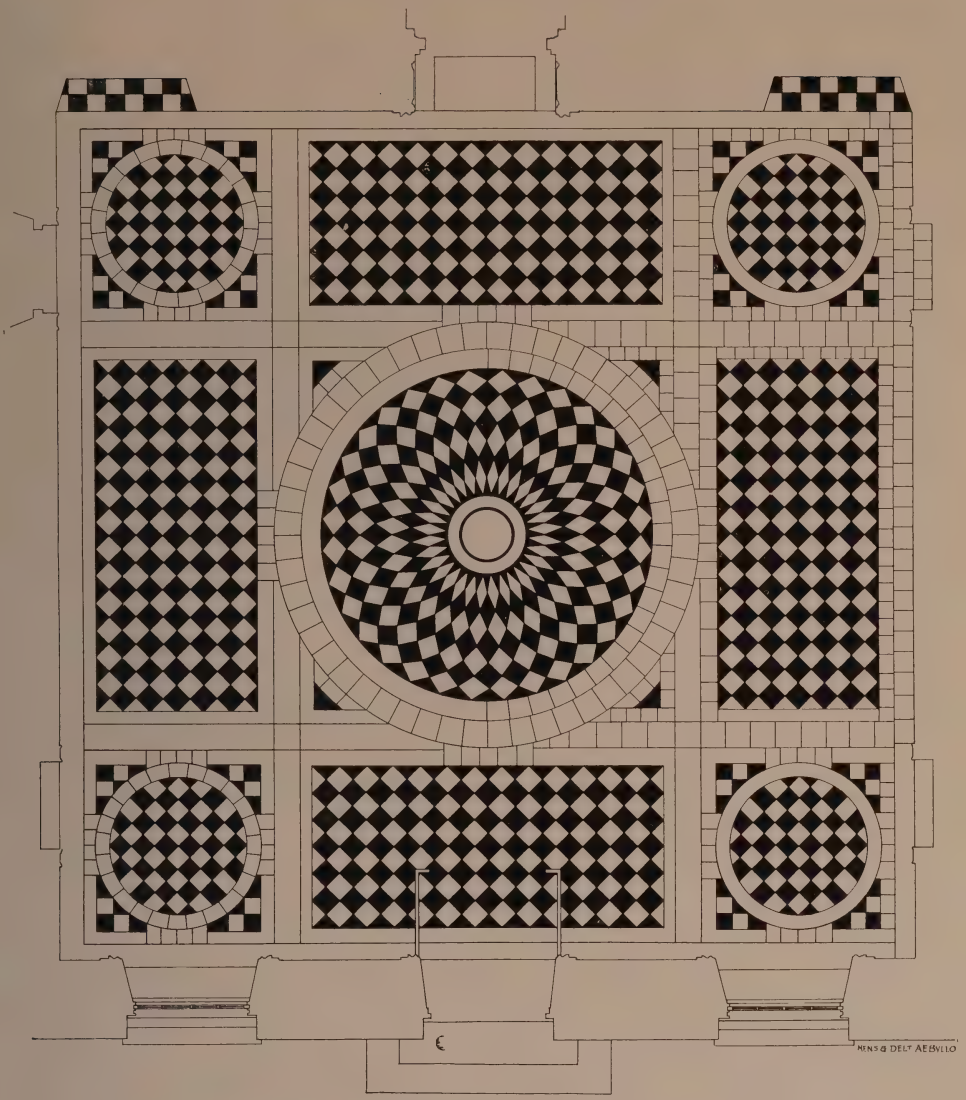
There are, too, many different types of marble paving within the chancel arch in churches, but they are for the most part modern and adapted from Italian sources.

The most elaborate of the early nineteenth century designs consists in that given from the paving to the Ionic porch and centre aisle of Stuart's Chapel at Greenwich Hospital. This example is most perfectly worked from an intricate pattern, and well preserved, while there is a certain reserve in the treatment of the cream and black slabs which exhibits a rhythm at once bold and suitable to the materials adopted.

The marble paving in front of the altar in St. Paul's Cathedral is an obvious plagiarism from Italy and as such can hardly be termed a national design, although it contains interesting lines and suggests a variety of possible alternatives which



Pattern of Paving to Main Stairs Landing
HAMPTON COURT PALACE

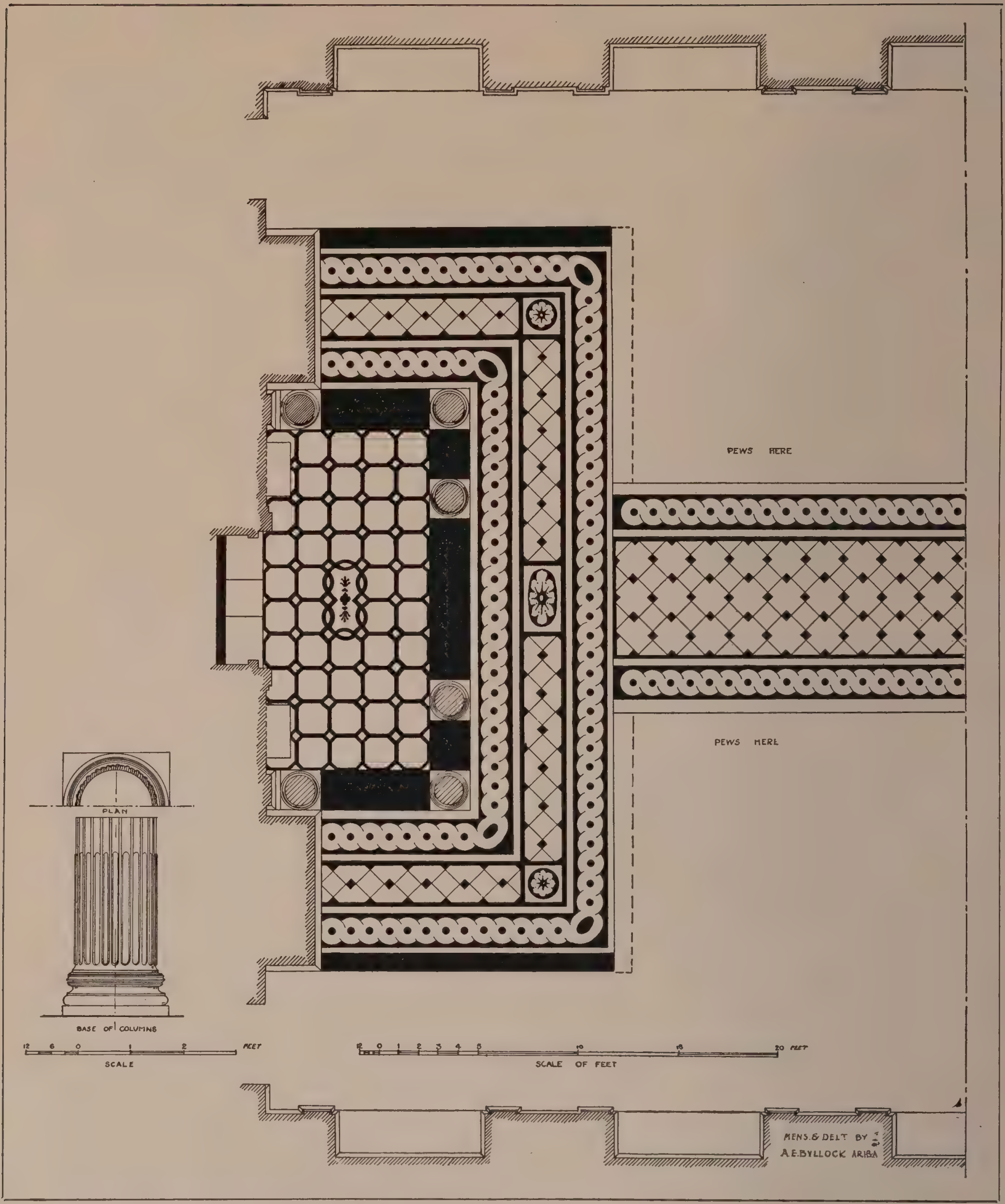


Detail of Marble Floor
THE QUEEN'S HOUSE, GREENWICH HOSPITAL, LONDON
Inigo Jones, Architect

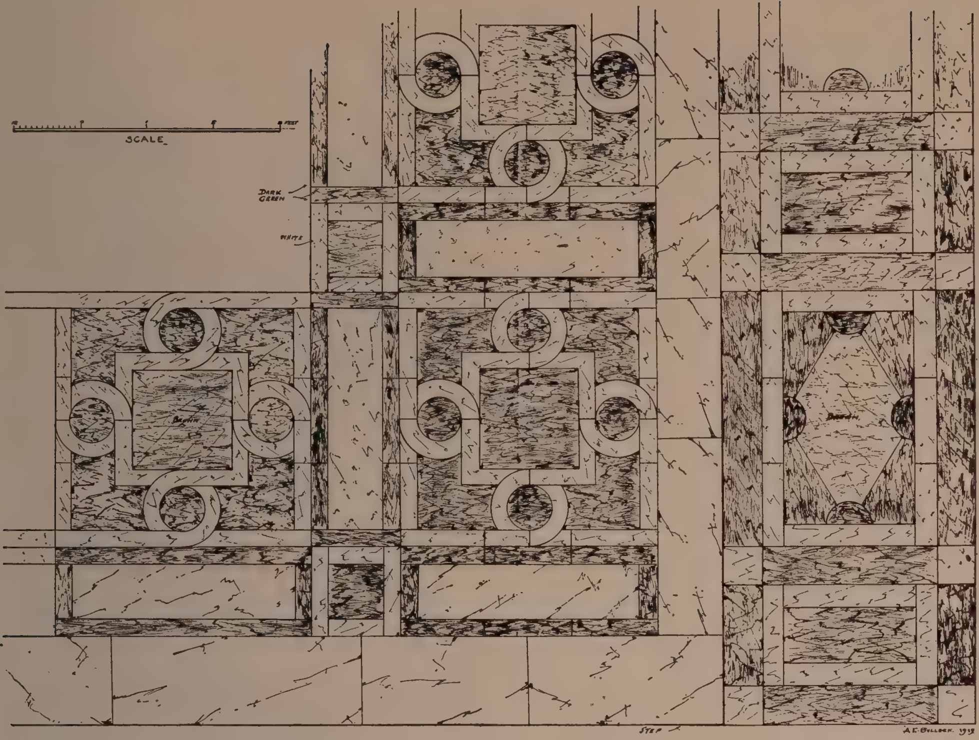
might be based upon the theme as carried out.

If we turn for a moment to the early French patterns it will be easily conceived that their simple lines have been the origin of many a variation familiar to those whose interest in wood-block flooring has been arrested. Although the exact patterns are rare in England it is obvious that attempts to copy them in some of the larger mansions of the country, were somewhat numerous.

The elaborate inlays of vari-coloured woods in the upper exhibition rooms of the Louvre are more modern than the Le Brun Galleries and therefore form an interesting comparison with the earlier designs, illustrating the possibilities as



Marble Paving in Entrance and Nave, with Details
THE CHAPEL, GREENWICH HOSPITAL, LONDON



MARBLE PAVING OF ALTAR, ST. PAUL'S CATHEDRAL, LONDON

well as the limitations of the material.

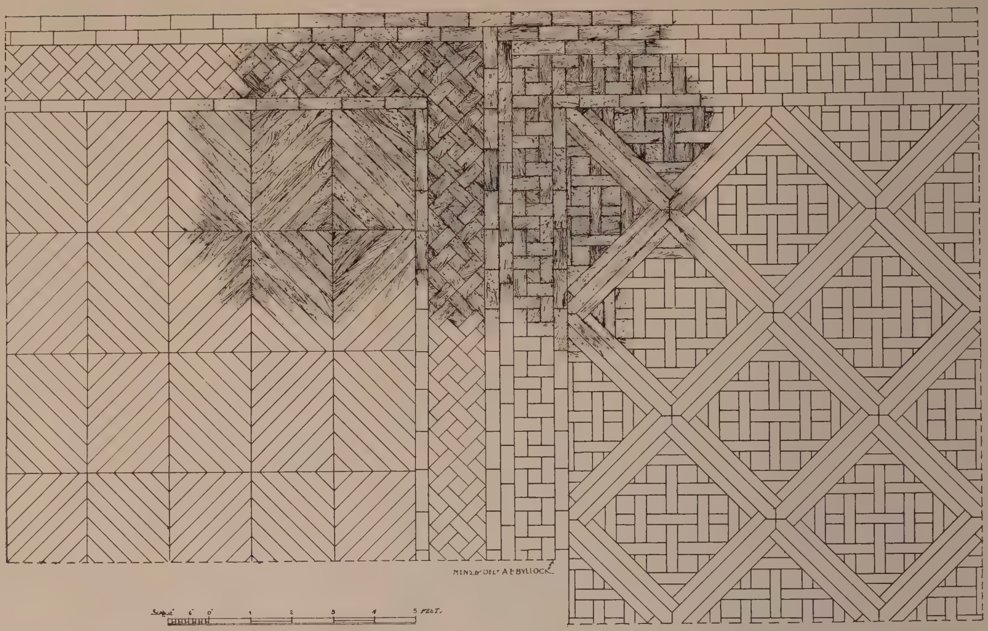
It was perhaps natural that the perfection obtained by French craftsmen in parquetry for furniture during the Boulle period, should exhibit itself in a certain skill in the design of parquet floors and for this reason we find very few châteaux in many widely scattered districts without some good examples of this work.

Inlays both in panelling and furniture were common in the early periods in England, as witness the work at the Inlaid Chamber from Sizergh Castle and the many "grandfather" clocks with elaborate inlays culminating in the fulness of the style known as "Seaweed" marquetry. The Dutch excelled in inlays of many varieties in cabinets, chairs, settees and tables.

In the William and Mary period in England the panelling of walls followed several different patterns, the panels to overmantels receiving chief attention, as at Hampton Court Palace and the state rooms at Chatsworth.

At Belton House the decoration consists of carvings to the panelling and elaborate ceilings to the main staircase and chapel. The hall and saloon are, however, paved with black and white marble squares and there exists a room with a parquet executed from a design by the present Lord Brownlow, made from a Dutch formal garden, which can hardly be said to be a satisfactory source from which to cull ideas in designs for parquet flooring; nevertheless it has one compensation, that of originality.

An interesting example of early English parquet floor, (formerly existing in Northumberland House, London), has been relaid in a private house at New Barnet named Monkenhurst. This is an oak floor consisting of squares placed



PARQUET FLOOR IN THE SALLE DE GLACE, PETIT TRIANON, VERSAILLES

diagonally with a conventional pattern placed within a circle in each square. The border is probably a copy of the original. Northumberland House is attributed to a Dutchman named Bernard Jannsens and if the floor was part of his design it may be dated about 1625, or of the period of James I to Charles I.

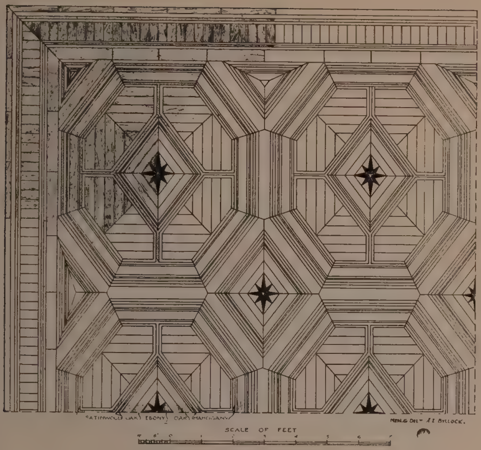
The paving of the floor of the family chapel at Whitley-Beaumont, near Huddersfield, Yorkshire, is formed of marble slabs of octagonal form interspaced with small black squares placed on the diagonal.

The ordinary chessboard pattern of regular squares of white and black marble, with its many variations in size and angle of direction hardly needs illustration.

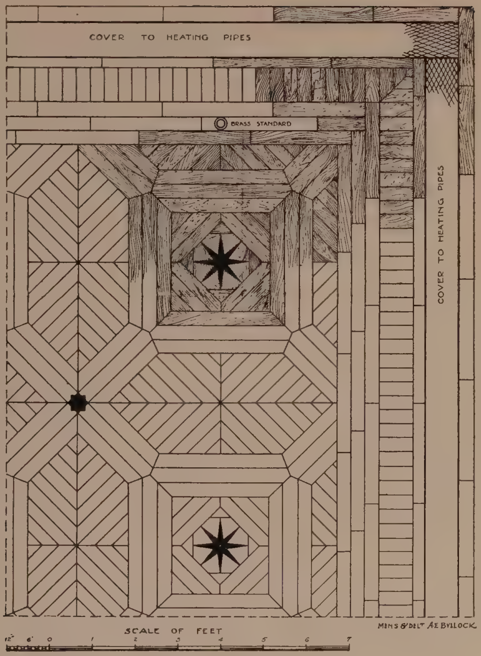
With paving tiles a number of patterns are given in the published catalogues of manufacturers. The small squares and triangles lend themselves readily to the formation of intricate patterns for hearths and fire cheeks but they will never entirely take the place of the more dignified treatment of marble even for this purpose, although on economic grounds, they form a branch of building material which as a substitute is a serious rival.

The necessity of cheapening initial outlay in floor coverings has given an impetus to other substitutes in rubber stampings and linoleums. These latter have been succeessfully exploited by the Staines Linoleum Company, Ltd., who have a great variety of patterns in imitation of marble floors, parquet inlays and even carpets and mattings. These have the advantage of being easily removed and when polished, of presenting a finish similar to the prototype. Beyond these advantages they are not to be preferred as a permanent flooring.

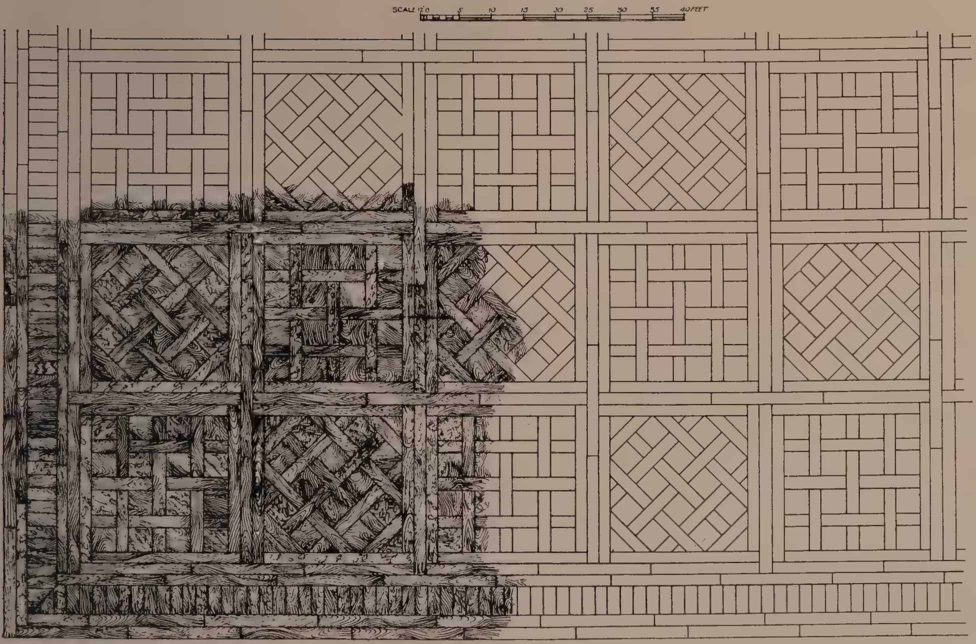
During the latter half of the last century a tendency toward the introduction of mosaics is observable in various examples of paving executed from about the year 1880. One of the more notable examples is in the paving surrounding the altar at Chichester Cathedral and that adjoining, comprising the choir aisles. There are three distinct patterns. The diamond shaped border and contiguous



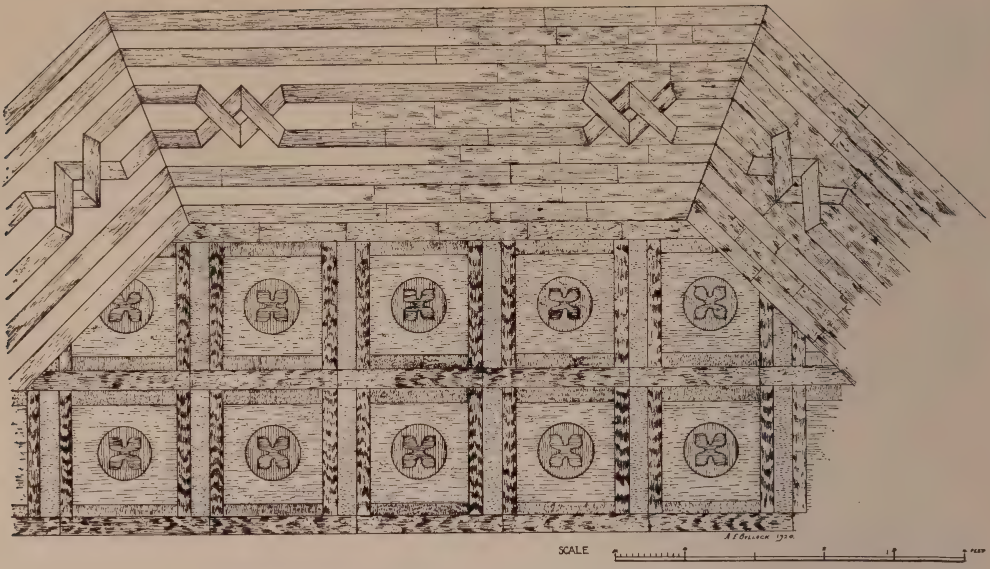
Rich Parquet Inlay
THE LOUVRE, PARIS



SALON CARRE, PARIS



LE BRUN'S GALLERY, THE LOUVRE, PARIS



PARQUET FLOOR FROM NORTHUMBERLAND HOUSE, LONDON

triangles and diagonal squares render a pleasing play of fancy and variation in design. The contrast in tones between the different squares being very slight, suggests a delicate finish, the marbles being of a generally even tone of grey-green with occasional slabs resembling alabaster or onyx which, however, are not good wearing stones for paving purposes.

Mosaics were definitely brought into general use by Bently when erecting Westminster Cathedral near Victoria Station, London, where many Italian types are to be observed.

The revival of the use of inlays in panelling has obtained in recent years, especially in the principal hotels as the Adelphi at Liverpool and for the decoration of staterooms on yachts and steamboats as well as in the Pullman cars of the principal railways of England. In some instances the type of design is good, having a tendency to Greek principles of variation of the honeysuckle pattern in some of the more recent carriages on the London, Brighton & South Coast Railway. The veneers used are bird's-eye maple, mahogany, satinwood, rosewood and oak which being highly polished present an effective appearance in the necessarily small compartments.

The advantage of inlays in comparison with mouldings and carving where clear lines are essential is obvious but the shining finish of the flat surfaces is rarely so effective as a well designed and proportioned period room.

With small rooms, passages and bath rooms rubber tiling is the most convenient form of flooring as it is sanitary and warm to the feet. The Austrian mastic formed cement and sawdust floor which is executed on the principle of cloisonné enamelled ware has been used to some extent in recent years on account of its cheapness and easy application but it lacks the possibility of receiving a high polish and is therefore placed at a disadvantage where floors are required for dancing or exihibiting fine examples of period furniture, the reflections of which so enhance the setting on polished surfaces.

It is hoped the illustrations here given will be found useful as representative examples of various types of floor coverings and lead others to practice that general observance of detail which has been rightly deemed the forerunner of originality in design.

ORIGIN of CHRISTIAN CHURCH ART

New Facts and Principles of
Research by Josef Strzygowski

By
Charles H. Moore

THE THESIS OF THIS book* may be shortly stated as follows: Students of Christian art have hitherto wandered in the dark in search of origins and filiations of styles, in consequence of making Rome their point of departure, whereas, in truth, these origins belong to the East.

The author starts with a summary "of the condition of research based on a consideration of regional, historical and cultural influences," which he thinks "brings us to the following conclusions": "Hitherto the study of Christian art has been almost exclusively in the hands of archaeologists. Of these, one group, the specifically Christian, made the Catacombs its starting-point. Its members believed that they could solve the problem of origin by the help of the oldest Roman monuments, the underground mural paintings, the sarcophagi, and the timber-roofed basilicas. In recent years a second group, that of the classical archaeologists, has turned its attention to Christian monuments, just as classical philologists have directed theirs to patristic literature. A third group, not far removed from the last, attaches significance to Byzantine Hellenism, and thinks to have discovered in this the creative spirit and guiding principle of development." "For the specialist who applies the comparative method in the artistic field Christianity rises against a background of other faiths" (pp. 15, 16.) "The problem today concerns the Aryan spirit in East and West, its assimilation of religions which had grown up on Semitic ground. . . Just as Christianity took final shape among the Western Aryans, so did Islam among the Aryans of the East. The subject of the present book is limited to the period between Christ and Mohammed. But in this period Christian art itself was penetrated by the East Aryan spirit; its whole development towards its approaching ascendancy in Europe is only intelligible if we grasp this hitherto neglected fact." (p. 20).

But it is a mistake to suppose that the fact of Eastern influence on western art has been neglected. It has been frankly recognized; but the precise character and extent of it have not been clearly understood, because the subject has been approached too superficially on the one hand, and too much from the point of view of speculative scholarship, on the other—in both cases without competent understanding and comparison of the monuments. Correct understanding of "regional, historical, and cultural influences" is well so far as it goes, but alone it cannot solve the problems of architectural origins. These demand knowledge of the monuments of a kind that has yet rarely prevailed among writers.

The monuments require to be studied with an eye to structure as the primary formative principle of a style for structure shows the distinctive nature of a style, and gives a solid basis for judgment as to origins and filiations. The writer of this book does not appear to have sufficiently realized this, as I think we shall see. He also makes affirmations of architectural precedence that cannot be justified, particularly in respect to the barrel-vault and the dome. For example, he says (p. 22): "I am disposed to ascribe the origin of the barrel-vault . . . to Persian Mesopotamia, that of the dome to Iran." But is there any ground for belief that barrel-vaulting arose in Eastern church building: did not such vaulting prevail in the West in imperial Roman times? And when we come to barrel-vaulted church building in the West, have we any reason to suppose that it was derived from Eastern sources, when we know that in Southern Gaul, where these churches are found, there were, and still are, many Roman remains of such vaulting? We know that this region had long been the seat of a brilliant Roman civilization, and that Roman culture prevailed here far into mediaeval times. What, under such conditions, would be more natural than that the church builders of the locality should adopt the form of vault which they had before their eyes in the ancient monuments; and how, on any other supposition, can it be explained why the barrel-vaulted churches of Gaul are confined to the South? As for the dome, its Eastern origin need not be questioned, though it was never, I believe, developed in the East into anything that can be called architecture, until the time of Justinian when in Constantinople—where the Greek genius was dominant—it became the leading feature of the greatest architectural monument of the early middle ages, the Church of Saint Sophia.

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*Oxford University Press, 1923. $12.

The author gives little information as to the structure of the primitive Eastern dome and its support, and his remarks respecting it are often conjectural as well as obscure. For example, on page 59 he says: "The dome over a square is a form which seems to have been developed from wooden construction after Aryan immigration into Iran." But the only support offered for this guess is that of "their method of roofing wooden houses with short beams laid across the corners," so that when this "was reproduced in sun-dried brick, a corbelled dome rose from four squinches at the corners of the square, leaving a lozenge-shaped opening at the top." It is hard to find intelligible meaning in this. What is there in wooden construction to give rise to a dome, and how could the circular base of a dome be adjusted to a lozenge-shaped opening? Again, on the same page, he remarks: "The dome seems at first to have been set upon the four walls by the help of squinches, when, however, the quatrefoil plan was introduced, and the solid walls pierced by arches, the spherical pendentive came in." Is it meant that the pendentive was developed in Iran before the great work in Constantinople was accomplished, and that thus the credit of producing this most important feature of dome construction over a square area belongs to Iran? Then, too, the writer fails to inform us how the Eastern domes were made secure against thrust—a matter which affects fundamentally their architectural character, since if thrusts are met by encircling abutments—the only effective method—the outline of the whole structure is materially affected. The illustrations of exteriors given in the book are of buildings posterior to the date of St. Sophia, and the domes are enclosed within drums which, together with the roofs, completely conceal them from external view. But were not the early domes of the East quite uncovered, and if so how were they made secure on any considerable scale? It should be realized that the great unbuttressed domes of the Renaissance are precariously tied in with binding chains. Were such chains employed in the early domes of the East? However this may be, it is clear that resort to such means is not compatible with sound building in stone masonry, and therefore no such extraneous devices find place in creative art. It may be remarked here that the number of creative styles hitherto produced in the world is small, and in consequence, students of mediaeval architecture are grievously confused by the vast multiplicity of so-called styles, in all parts of Europe, which are of a more or less spurious nature. The racial confusion of the middle ages, with its inevitable predominance of intellectual and artistic mediocrity, is naturally reflected in the architecture. It should be realized that creative styles are few, and are distinguished first by structural consistency; but the great bulk of mediaeval building is wanting in rational construction. The first care of the student should be to distinguish between what is consistent in structure and what is not so. In searching for creative origins, this consistency of structure should be a primary consideration, and should be kept always in mind. Without this no study of regional, historical, or cultural matters can lead to just conclusions respecting architecture and filiations of styles.

In his discussion of what he calls the "vaulted-basilica" (p. 86), this lack of structural discrimination is further manifest. There is no propriety in calling a vaulted church a basilica. A basilican church is essentially and exclusively a thin-walled edifice covered by a timber roof, save for the apse, which has a semi-dome on a small scale, and in some cases, groined vaults over the aisles. It cannot carry high vaulting, but only a trussed timber roof—which has no great weight and exerts no thrusts. It is true that what is called the basilica of Constantine, in the Roman Forum, is vaulted, with ponderous walls and abutments to support the vaulting. These features, however, take it out of the true basilican category, and make it architecturally something radically different. But the writer appears to regard any building with a long nave, whether timber-roofed or vaulted, as a basilica. It should be obvious that this deprives the term basilica of any definite meaning and creates confusion. Thus, on page 183, we are told that "the Hellenistic timber-roofed basilica . . . began in the course of time to yield to the pressure of Eastern communities, while the vault, gradually advancing westwards, first profoundly modified the long church, and ultimately, after a thousand years, sealed its triumph with the dome of St. Peter's." Thus the author appears to regard the modern Church of St. Peter's as a basilican structure, dome and all. He seems also to consider Gothic architecture as a derivation from the "vaulted basilica," for he says, (p. 72) that "when the long naved church was imposed upon Armenia in the fifth century the dome was added, and a type produced which bore in itself the seeds of Christian northern art in Europe (Gothic)." And speaking of the cathedral of Ani, of which he gives an illustration facing page 71, he says: "It is a delight, in a church earlier than A.D. 1000, to see the builder . . . carrying Armenian art so logically . . . past Romanesque to Gothic." What is shown in this building gives no intelligible meaning to this language, and no attempt is made to explain it.

It is necessary here, for the sake of clearness, to say a few words on the terms Romanesque and Gothic as applied to mediaeval architecture. Both terms have been hitherto employed so loosely that they have carried no definite meanings. No discussions involving the use of these terms can lead to just conclusions until some proper common understanding concerning them is reached. It may well be questioned whether either of them is appropriate, but if used at all, it ought to be with precise significance as to the architectural character to be understood respectively.

In writings on mediaeval architecture thus far, the term Romanesque connotes little more than post-basilican building with round arches. It has not been recognized that of the many varieties of round-arched architecture of Western Europe, only one has a distinctive character based on structural principles that contain seeds of further development, namely, the so-called Lombard Romanesque of the eleventh century. This is a vaulted architecture, in which the vault has a new character and is a development out of the domical groined vault of the Byzantine craftsmen. The Byzantine groined vault gave the initiative in progressive vault construction by departing from the Roman principle of intersecting cylindrical surfaces, in which the groin arch has of necessity an elliptical curve, and making the curve of the groin semicircular, thus lifting its crown to a higher level than that reached by the arches on the sides of the vault and giving it the domical form. In taking over this Byzantine innovation, the Lombard builders made, at the same time, far-reaching additions which brought into being, in rudimentary form, an organic system of which the Gothic style of the Ile-de-France is, as to structure, but the ultimate development. The Lombard innovations consisted in introducing salient ribs to strengthen the groins, and a similar rib on each side of the vault compartment, while upright supports, the principal ones starting from the pavement—one for each vault rib—gave a complete internal skeleton. This organic Lombard system is exemplified in the nave of the church of St. Ambrogio of Milan, which remains virtually intact from the eleventh century. The perfected system (the French Gothic) culminates in the nave of Amiens. This final development consisted in functional and beautifying improvements in every part—in reshaping and readjustment of the vault ribs and their supporting shafts, in the creation of an external buttress system answering to the internal parts, and finally to the virtual elimination of walls—now no longer needed—so that the entire fabric became an open skeleton sustaining the vaults, as at Reims and Amiens. We cannot here discuss the conditions which produced, in Lombardy the beginnings, and in the Ile-de-France the full development, of architecture so radically different from any that the world had seen before. It is enough at present to note the facts.

To return to Mr. Strzygowski's thesis, it should be clear on comparison that what he calls a vaulted basilica, namely, a long naved and barrel-vaulted building with a dome, contains no germs of an organic structure such as I have briefly described. Such buildings are of necessity heavy walled structures that contribute nothing toward the formation of either the organic Romanesque of the Lombards or the Gothic of the Ile-de-France. It is important, however, to bear in mind that the initial principle of the Lombard and the French developments, came from the domical groined vault of the Byzantine East, while the further creative innovations were wrought entirely by the builders of the West.

The many conflicting notions respecting the mediaeval architectures of Western Europe that find expression in books, are a natural result of the loose nomenclature and erroneous classifications of styles that were hastily adopted by the early writers of the last century who were ill-equipped for their task. A discriminating survey of the whole field cannot fail to make it clear that the architecture of the middle ages presents a tangled mixture of, for the most part, more or less spurious styles, out of which emerge the creative types that I have named. The idea that Romanesque and Gothic are generic types of building that prevailed over all Western Europe, from the twelfth to the fifteenth centuries, is a fallacy that more attentive observation and comparison of the monuments cannot fail to dispel.

Before leaving this part of the subject, a word must be said about the theory that the Scandinavian wooden buildings contributed to the formation of the Gothic style, as our author maintains that it did, saying (p. 187): "It was only in the north of Europe that fresh creative energy survived to produce, in the twelfth century, that flower of Christian art which we call Gothic." And he adds: "This art developed in the north of France out of a lost wooden architecture, just as Armenian construction was derived from vanished Iranian buildings of unburnt bricks." The notion that Gothic architecture was developed out of wooden construction has no foundation in fact, because it is impossible. For nothing of the principle of any stone building can be embodied in a timber frame. The timber framework is held together by pinning the parts. All tendency to yield to lateral pressures is met in wood by the tension of the tie beam; but there is no tension in stone building, stability in stone is maintained of necessity wholly by compression. In his quest of origins the writer has here lost sight of fundamental principles of construction pertaining to the materials employed; there can be no question of structural filiation between wooden and stone building. As for the evolution of Gothic, we have full illustration of it in extant monuments of the Ile-de-France, and nowhere else. But the author contradicts his own theory as here laid down, by his equally mistaken theory of the derivation of Gothic from the "vaulted basilica"—which he has told us, as above noticed, contains the seeds of Gothic. On page 75, he remarks: "I do not regard Christian architecture . . . in the narrow early Christian sense, but from a wider point of view, passing beyond the middle ages to the High Renaissance." Thus the author appears to maintain that there is an architectural continuity of development from early Christian art through the middle ages to, and including, the Renaissance.

There does not appear any consistent principle drawn from the monuments, governing his conclusions.

PORCH OF A PARISH CHURCH IN KENT, ENGLAND

NOTES AND COMMENTS

We suppose the historian of American domestic architecture would agree that the modern traits of our domestic building appeared some time near the year 1880. During the seventies American taste in house design was dominated by Eastlake, and the Gothic revival; and these houses were erected for people who were opposed to display and who insisted, at any expense, upon appearing to be unpretentious. But during the late seventies after business had fully recovered from the panic of 1873, the millionaire first became a prominent social fact in American life; and early in the eighties he began to demand some architectural expression both of his opulence and his increased sense of his social importance. Then is was that the palatial villa of Newport began to be built and royal châteaux broke the monotony of the brownstone fronts on upper Fifth avenue.

It may be interesting, consequently, to take a glance at the way in which an intelligent man and a good architect regarded at that time the problems and prospects of American domestic architecture. Mr. A. J. Bloor was both an intelligent man and a well-informed and conscientious architect, and in January, 1879, he contributed to the American Art Journal a series of articles on American dwellings, which began with some general observations on the prevailing tendencies in American taste. He asks his readers of middle age to compare the contemporary houses, both in city and country, with those whereby they were surrounded in their youth; and he declares that "such a retrospection can hardly fail to leave on the mind the impression that the community is more cultivated in its perception of the commodious, the fitting and the beautiful in the building art than it was in the last generation." In order to justify this statement Mr. Bloor undertook a comprehensive survey of the history of the American domestic architecture which we cannot reproduce here, but it is interesting to observe how clearly he foreshadowed the direction which the design of the more pretentious American houses was to take during the next twenty-five years. He states, for instance, that "among both amateurs and architects, the conviction is deepening that the so-called distinctively Gothic forms, though probably the noblest and most suitable of existing systems for the ecclesiastical purposes of Christendom and perhaps for very large enclosures of a secular kind, are by no means so well adapted for confined or moderate domestic purposes as others which lie more or less outside of mediaeval prototypes," and he anticipates the reason why the tendency for almost a generation was to run in the direction of something more ornate. "No one," he says, "familiar with the grade of existing American society which has the control of very large means will assert that a self-restrained tone any longer prevails in it to an influential degree. Is it not rather the truth that our merchant princes, our large manufacturers, our money-coining miners, railway magnates and financiers of all kinds are much more disposed to emulate the expenditures of the Medici of the old Italian republics than to conform to the habits of their thrifty forefathers."

In dealing with another important aspect of his subject, Mr. Bloor was less fortunate in his outlook and judgments. American domestic architecture was for the first time on the verge of a conscious pursuit of "stylism"—of a practice, that is, of designing houses according to the spirit and the letter of particular French or Italian periods. Mr.

Bloor anticipates the probability of such a development, but he does not anticipate the extent to which stylistic legalism was subsequently to prevail. His discussion of this matter is so ingenuous and yet so well-intentioned that it is worth quoting somewhat at length.

He considers that his retrospection will convince all his readers of the desirability of dispensing with "style" in so far as it (that is the dispensing) suits them." After granting "all due reverence to the memories of the architects, kings or capitalists who together did their great works in Assyria, Egypt, Athens, Rome or medieval and Renaissance Europe," we Americans "ought not to handicap ourselves too much with the 'styles' deducible from stately structures in our homely task of considering what is suitable for our everyday purposes and exigencies here in the United States, in the way of family residences for the citizens of a republic where there is neither a peasantry nor a legal aristocracy and where the habits of what is virtually a simple homogeneous bourgeois class only differ according to the fluctuations of the money market and the strength and cultivation of the individual. We will agree to resort to classic or medieval Gothic, or in a slight degree or not at all just as it happens to hit our mood or suit constructional emergencies or aesthetical suggestions."

In frowning on stylism, Mr. Bloor was, of course, warning his readers against a weakness to which Americans were peculiarly prone. They have always shown originality and initiative in dealing with practical affairs as contrasted with timidity and imitativeness in dealing with matters of literary and plastic expression. He wished, as so many American critics have wished before and since, to persuade Americans to seek vehicles of expression which were the product of American conditions and ideals. But as it happens, architecture is a language as well as a matter of utility, and language is necessarily conventional. No people will invent languages if they can find them ready-made. The Americans who wanted to build showy, pretentious houses were bound to use the architectural language which other peoples had invented for that purpose. It was only after such houses had been domesticated on American soil that they could, as Mr. Bloor demanded, be overlooked, criticized and rejected or modified by taste born in part of local conditions and local experience. Herbert Croly

DESIGN REGISTRATION AN ASSET TO ARCHITECTS

It would be difficult to imagine a contemplated Federal statute richer in promise to the architectural profession than the Design Registration Bill. That more has not been heard of the pending measure to afford protection to original designs in art and industry is due principally to the fact that the Capper Bill was introduced too late in Congress to have a place on the Congressional calendar. The sponsors of the bill thereupon laid their plans to press the issue during the winter of 1924-25.

In some quarters the present effort to protect new and original designs against imitation and infringement has been acclaimed the first national governmental recognition of the property rights that are vested in unique forms and outlines. For years past, the patent laws of the nation have made provision for the issuance of patents upon designs and a certain number of designers have, each year, availed themselves of this form of insurance. By and large, however, the facilities for Federal certification of exclusive ownership in designs have been so little used it is not strange that many persons who have creative work at stake have remained in ignorance of their existence.

The existing design patent system is criticized as not sufficiently comprehensive but the most serious indictment against it is that the expense entailed has been prohibitive to interests that must patent many designs to secure complete protection. The high cost of patenting has been particularly discouraging to the interests that contemplate active use of only one design on a given theme or motif but wish to copyright the several obvious modifications to prevent others from taking possession of alternatives of the design that might readily induce mistake. It is because the high cost of patenting has borne much of the blame for the rising tide of design piracy we find the nominal fee for short-term registration a feature of the new system that Congress is urged to adopt.

Architects may measure their interest in this project by the broad definition of "design" which will obtain if the pending bill is enacted. The term "design" is to include any conception in relation to a manufactured project which is new and original in its actual application to or embodiment in the manufactured product either as to pattern, shape or form, ornamentation or decoration. The phrase "surface design" is to be applicable to an original conception applied only to the surface of a manufactured product to improve its appearance. Inasmuch as the U. S. Commissioner of Patents, in considering an appeal in a trademark case, recently decided that dwelling houses were to be construed as articles of manufacture, it is assumed that no question could be raised as to the application of the Design Registration program to all sections of the architectural field.

In order to indicate some of the products for which designs are expressly recognized as registerable, the pending bill enumerates some fifteen different classes, among which are heating apparatus, textile drapings and hangings, floor and wall coverings other than textiles, furniture, art objects, lighting, plumbing and bathroom fixtures, builders' hardware and trimmings, and miscellaneous designs. The bill provides that registration of a design in one class shall not prevent registration of one of similar character embodied in or applied to other classes of manufactured products "when authorship is involved in their creation."

Not only will the initial registration make it possible to reserve all potential modifications of an innovation in design, but this minimum fee for a short term will give opportunity to appraise its probable permanency. Under the Capper Bill, exclusive right in a design is secured for a period of two years upon payment of a fee of $2. The registrant thus obtains forthwith an option upon his design in so far as Federal credentials can attest it. At any time before the expiration of the two years he may, by payment of a fee of $20, secure the extension of the period of protection to twenty years. The framers of the act have assumed that two years should permit determination of the virtue of a design. The short term registration has the further advantage that it affords protection to the numerous novel but short-lived designs in industry.

The pending bill makes it specifically unlawful to copy, during the term of protection any registered design unless by license of the owner. Due provision is made for the assignment of copyrights but it is stipulated that such assignment must be recorded in the U. S. Patent Office within three months after its execution. To discourage false pretense of originality the bill threatens with fine of $500 any author or assignee of an author who shall register a design knowing that it is not original or who shall bring suit under a certificate of registration procured for a design known to be not original.

Ample remedies are provided for the creators or owners of original designs who are subjected to trespass. By the terms of the proposed act, the U. S. Courts would have power to grant injunctions preventing infringement of any right secured by design registration and providing for recovery of profits and damages. The courts may order the destruction of all "infringing copies" of a design and all the dies, molds, plates, devices, etc.

The Design Registration Bill, as it awaits the attention of Congress, is not by any means the hasty inspiration of an individual reformer. On the contrary in its present form, it represents the fruits of several years of effort by various professional and business organizations. More especially is it the child of an association known as the Design Registration League which was organized avowedly to secure the protection essential to the development of original ideas in the art industries and kindred fields. The Capper Bill in its final form represents a composite of ideas. Various industries, dependent upon the use of artistic designs, for example the manufacturers of spare parts and repair parts for standard mechanisms, were apprehensive lest elemental restrictions upon designs would hamper them. Gradually, however, the wording of the measure was so revised and amended that "secret registration," "bulk registration" and other threatened evils are accounted impossible and virtually unanimous support has been secured.

Waldon Fawcett

An interesting report* has been brought out under the auspices of the Committee on Seasonal Operations in the Construction Industry, Mr. Ernest T. Trigg, President of John Lucas & Company, Chairman. The personnel of the committee consisted of well known leaders in various branches of the industry whose names are guarantee of a serious and practical investigation of the subject.

"Custom, not climate, is mainly responsible for seasonal idleness in the construction industry." This is the opening sentence of the report and strikes the keynote of the whole. Many facts are presented to bear out this contention. Weather reports for some years back have been examined to show that the number of days in the winter in which construction work cannot be carried on is smaller than is generally supposed. It is brought out that there is a marked seasonal fluctuation in building operations even in southern localities where the influence of weather on winter building is practically negligible. The effect of fixed leasing dates on seasonal unemployment is also discussed. Fixed leasing dates not only cause a rush for completing structures at a given date, but they also impose heavy loads on trucking companies, telephone companies, and other utilities which are called upon to make an unusual number of installations at a particular time.

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*Seasonal Operation in the Construction Industries: The Facts and Remedies. Report and Recommendations of a Committee of the President's Conference on Unemployment. With a foreword by Herbert Hoover. McGraw-Hill Book Co., Inc., New York. $2.50.

The various phases of economic waste incident to seasonal idleness are well set forth. Not only does seasonal idleness result in a reduced annual wage to labor but also in increased costs, which must be borne by every other element in the construction industry including the owners of buildings and even tenants. During the peak of construction activities, building laborers are much sought after and competent ones are difficult to find for many jobs. Whereas, in a period of comparative idleness the best mechanics can be obtained and are likely to work more efficiently. Construction companies are obliged to carry heavy overhead charges through periods of comparative idleness and these expenses must be made up in times of greater activity. Owners who start their projects in the peak month are subject to delay in completion. All these factors are added to the cost of construction in general, which ultimately is borne by the community.

The facts brought out in the report are well presented and convincing. They point the way to further investigation by local organizations seeking to remedy the existing situation.

The remedies suggested are thoroughly practical. Reports from various contractors who have carried on a large volume of winter construction have been summarized. There is a discussion of the cost of precautions against damage by cold and of the items of saving which tend to counterbalance these added costs.

Not only have certain contractors, through use of improved processes, demonstrated to their own satisfaction that winter construction is feasible, but quite a few of them have thereby managed to distribute their own activities fairly evenly through the year. Cases are cited where subcontractors have, through advertising, persuaded owners to plan repair work, repainting, etc., in off seasons.

The report makes the very important point that any widespread change in the custom of letting contracts seasonally, would have to be the result of coöperation among the various elements affected and that these various elements will be persuaded to coöperate when they see that the result aimed at will, in the long run, be profitable to each and every one of them.

This report is a very able discussion of a subject of major importance to the construction industry. It is timely and practical. There is at the present time a considerable tendency toward concerted action among the many elements that are associated in building enterprises. Any one who desires to accomplish valuable results in eliminating seasonal idleness in his own business, would do well to give this report some study and use its findings as the basis of coöperative action toward that end.

THOMAS S. HOLDEN

THE ROCKEFELLER GIFT TO FRENCH ARCHITECTURE

The gift of $1,000,000 made to France by Mr. John D. Rockefeller, Jr., for the restoration of the cathedral of Reims and the palaces of Versailles and Fontainebleau easily ranks as one of the most notable public gifts of our century. This gift to France stands almost alone in being directed to the restoration of three of the greatest buildings in France, each of extraordinary historic and artistic interest, and each of which makes its own distinct appeal to the imagination. It is a new phase for bettering humanity when our philanthropists turn to making gifts that succeeding generations, as well our own, may enjoy and take delight in the great architectural constructions of former times.

It was a noble gift, a gift of quite unexampled generosity; it was made at the time it was most needed. How the devastated cathedral of Reims cried aloud for quite ordinary structural repairs, has been known to all men, since its senseless destruction by the German guns. The palaces of Versailles and Fontainebleau stand in a different class. Both had long suffered from slow decay, so much so that many Paris newspapers begged for the aid that could not be given. We may admit—and the point needs no argument—that these great buildings are among the architectural glories of France and of the world; but with the incessant demands made upon its resources the French Republic simply could not find the funds needed for even obvious repairs.

Mr. Rockefeller has, therefore, come to the aid of art lovers as well as to France herself. And he has done much more than lay a heavy debt of glad appreciation on the French people; he has benefitted, and that deliberately and of set purpose, every lover of fine architecture, every student of architecture, every one interested in the best in art.

In his letter to M. Poincaré making his offer, Mr. Rockefeller indicated the general lines on which he desired the money used. He wished to meet the expense of a new roof for the cathedral of Reims; to restore the buildings, fountains and gardens of Versailles, and to make the urgent restorations of the buildings and gardens of Fontainebleau. On these general lines his committee of investigation, in consultation with the French authorities, have settled upon 5,000,000 francs for re-erecting the roof of the cathedral and rebuilding the tower of the Angel, which stood upon the apex of the apse; 4,000,000 francs for the repairs to Fontainebleau, and 9,000,000 francs for Versailles.

The great horror of the war of 1914-1918 was its needless destructiveness. Its destruction of human life naturally stands first among its unprecedented terrors. But with the huge fighting forces involved this was unavoidable. The German destruction of monuments of art on the Western Front was utterly without reason or military advantage.

Many of these lost monuments can never be replaced; the cathedral of Reims may never be restored to what it was in its prime; but Americans may well be proud and rejoice that one of their own countrymen has done more than the most that any one man or, indeed, any group of men, could do to preserve it so far as is now possible.

Barr Ferree

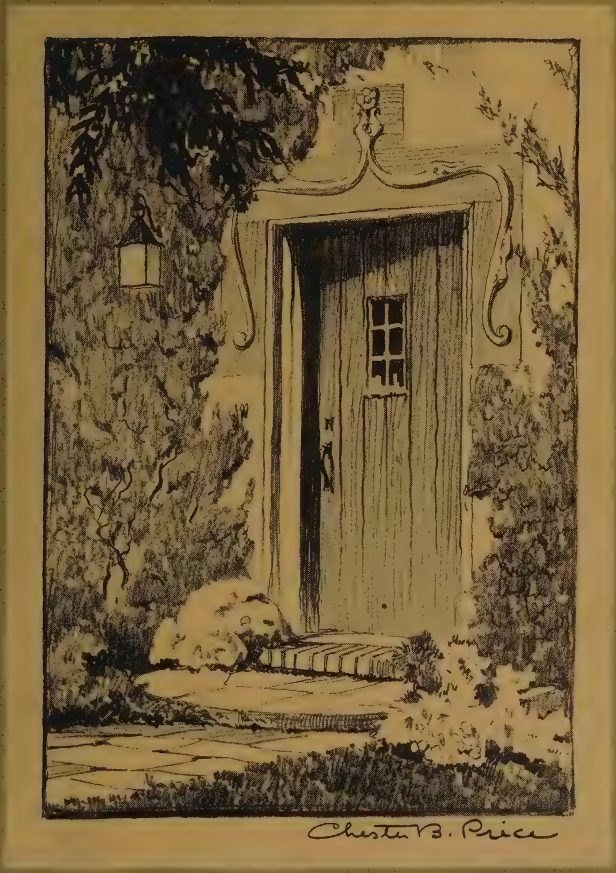
Several additions in the art faculty of the Master Institute of United Arts have just been announced, indicating the rapid growth of these departments. Among them are, in the faculty of painting and drawing, Samuel Halpert and Chester Leich; in sculpture, Albert Jaegers and Robert Laurent. Mr. Laurent recently won the Logan prize in Chicago for his wood-carving and he will give classes in this as well as in sculpture; in architecture, Alfred C. Bossom and William Virick. The departments of design have recruited Raymond Sovey for theater decoration. The work in costume design is under Gilbert Clark, renowned in this field.

As has been its previous custom, the Master Institute will unite all departments in a series of general lectures, given by some of the greatest authorities. In the field of the graphic arts, the lectures will be given by Claude Bragdon, Rockwell Kent and Dhan Gopal Mukerji.

To encourage the interrelation between art students, the Master Institute is this season also coöperating with Corona Mundi, International Art Center in the series of contests for the Alfred C. Bossom prizes for American designs. There will be six contests for the best designs based on America's indigenous art, in costume, textiles, furniture, interior decoration, architecture and music.

The ARCHITECTVRAL RECORD

COVNTRY HOVSE NVMBER



NOVEMBER 1924

Riddle

DECORATIVE LIGHTING FITMENTS

While certain Riddle Fitments are designed for the more expensive homes, other styles have been definitely developed to provide lighting fitments of truly decorative character within a moderate price range. The Riddle Special Series, priced from $7.50 to $16.50, offers perhaps the greatest values ever known in home lighting fitments. The Special Series is particularly adapted to the less expensive home developments and to apartment house use. Illustrated folders of this new series, and of other Riddle styles, will be sent on request; also details of the Riddle Planning Service available to architects without expense or obligation.

THE EDWARD N. RIDDLE COMPANY, TOLEDO, OHIO

Originators of cast aluminum residential lighting fitments

ON THE OUTSKIRTS OF DORKING, SURREY
Rendering by Birch Burdette Long

The
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VOLUME 56 NOVEMBER, 1924 NUMBER 5

CURRENT COUNTRY HOUSE ARCHITECTURE
— The PENDULUM OF DESIGN SWINGS —

By
Russell F Whitehead

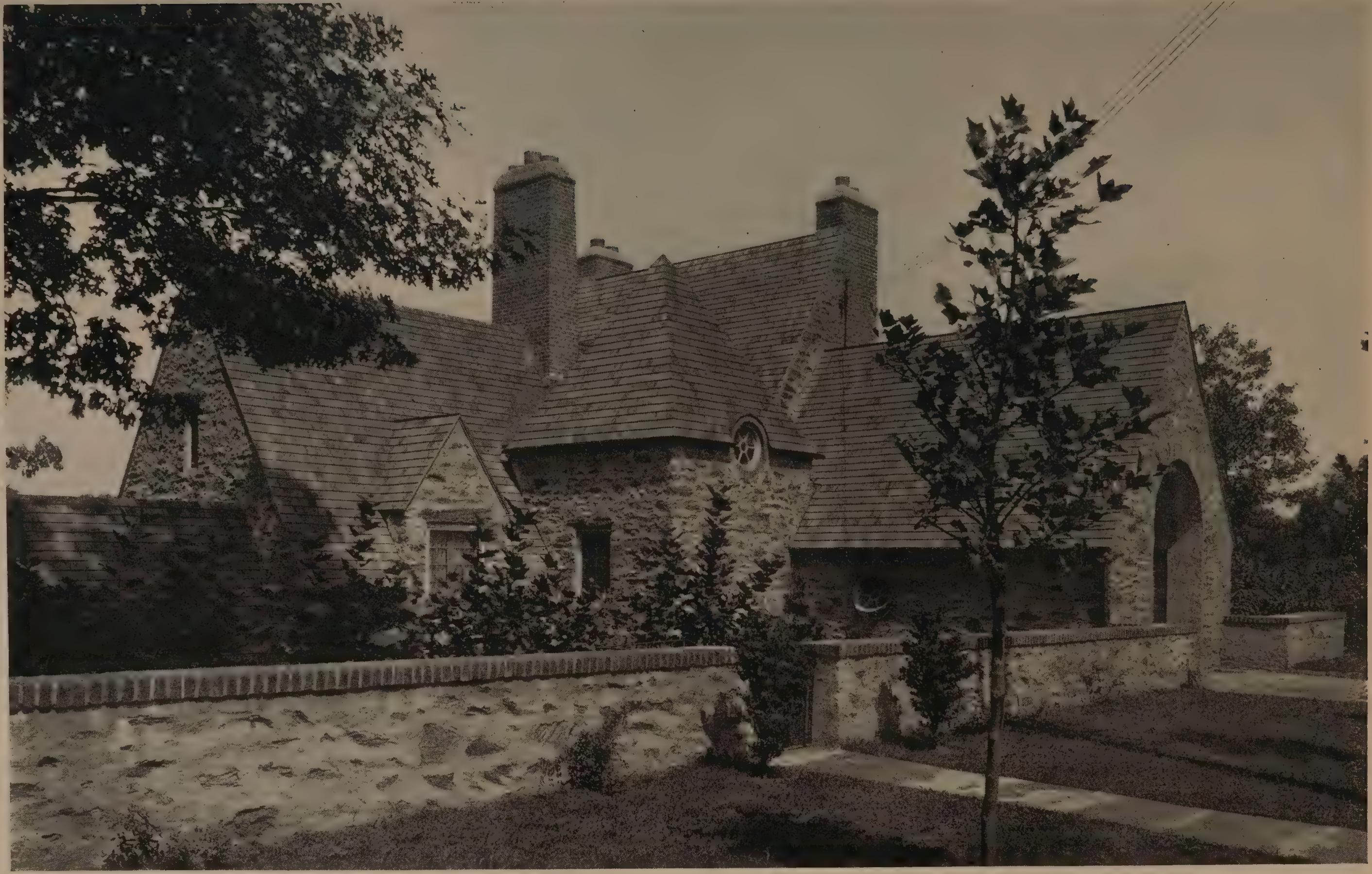
THE Annual Country House Number of *The Architectural Record* has come to be, at least in the mind of the writer, an occasion for stock taking; a time when he is forced really to examine the current domestic work of our architects, in order to write about it intelligently. Every year as the material comes in, we begin to wonder what there is to say about it, what can be said that is not desperately trite and horribly forced about a subject which is discussed annually by a dozen or more capable critics. Yet each year, when the selections are finally made, somewhat to our surprise, we find there is really something we want very much to say about the latest group of houses. We have perhaps no great message, only a desire to record our opinion of current tendencies hoping these may be of some value to the architect of today and not too great a joke to the architect of the future.

We have a healthy fear of that future architect, and of what he may think of contemporaneous opinion of current work; and when we see, or think we see some change in ideals and in execution this year from the past, we may be deceiving ourselves sadly. The art of architecture does not change so rapidly as that. It is as if by looking at the hour hand of a clock for one long minute one could say, "how fast it moves"; yet the year in architecture to the life of even our fast moving period is less than the minute to the hour. Therefore, the remarks we shall make upon the work illustrated in this issue, must, in so far as they are general, be considered tentative only, and corrected by the reader's own observations of current work. It may be, the material published in this number only happens to indicate that American architecture is headed in a particular direction, and that a wider choice would prove something else. Although the selections were not made to support a thesis, but to represent broadly the work in the United States, it is undeniably true that, by careful selection almost any thesis could be supported, and we could prove, (or appear to prove) by most excellent examples, that our future architecture will be an unmixed derivative of, shall we say Colonial, or if you choose, Spanish or Italian art.

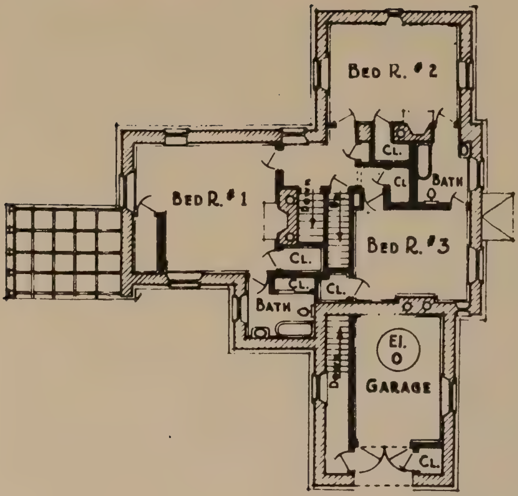
This is obviously not the case. We have often pointed out the wide field of precedent from which our architects have drawn their motives—and in too many cases their "inspirations"—to believe our art is or is ever likely to be anything but a mixed product, and while it will very likely grow strongly upon its own stem, it will nevertheless be the result of cross fertilization and not a plant of guarded inbreeding. Our civilization, political and economic, has drawn upon the older civilizations of Europe to an extent that only the foreigner recognizes; we have created a new race consciousness of which we are less aware than the stranger within our gates. So in architecture we have developed a type of our own of which we are less aware than is the foreign critic. If we are not fully aware of our contribution to the growth of an American style, we are fully conscious of what we are striving for; far too conscious to achieve it, nor do we strive continuously for one thing. Last year or some other, it was dignity and balance, this year it seems to be, above all things, charm; and while in the past we have sometimes set ourselves upon things which could be attained by taking thought, we have this year attempted the unattainable. What girl can make herself consciously charming? She can be honest, or chaste, or reserved, or dignified and even intelligent, but in seeking charm, she achieves only affectation.

We do not wish to imply that the houses illustrated in this issue are pieces of affectation, but there is to be noted something of a tendency which, carried to excess, can result only in affectation. Far too much current work is at best in the class with the peasant village Marie Antoinette caused to be erected in the Trianon Gardens; excellent in design, thoroughly picturesque, but which was when completed, only a delicious piece of stage scenery, a thing as apparent today as when it was built. So appear many of our modern houses. We have the same Norman peasant's cottage, the primitive New England farmhouse, the Italian country villa, reproduced (even to the cracks in the plaster) with a fidelity only approached in the movies, and offered as suitable habitations for dwellers in the suburbs and country districts. We are asked to accept these as authentic reproductions of the things that delight us most in Europe and as guaranteed to produce a similar reaction wherever located.

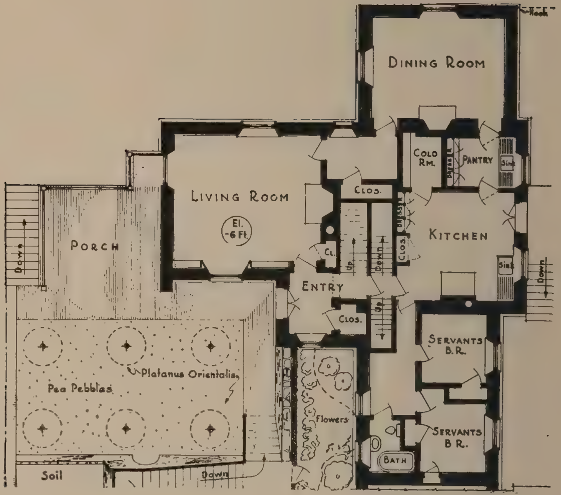
Text continued on page 417



RESIDENCE OF H. F. C. STIKEMAN, ESQ., CHESTNUT HILL, PENNA.
Mellor, Meigs & Howe, Architects

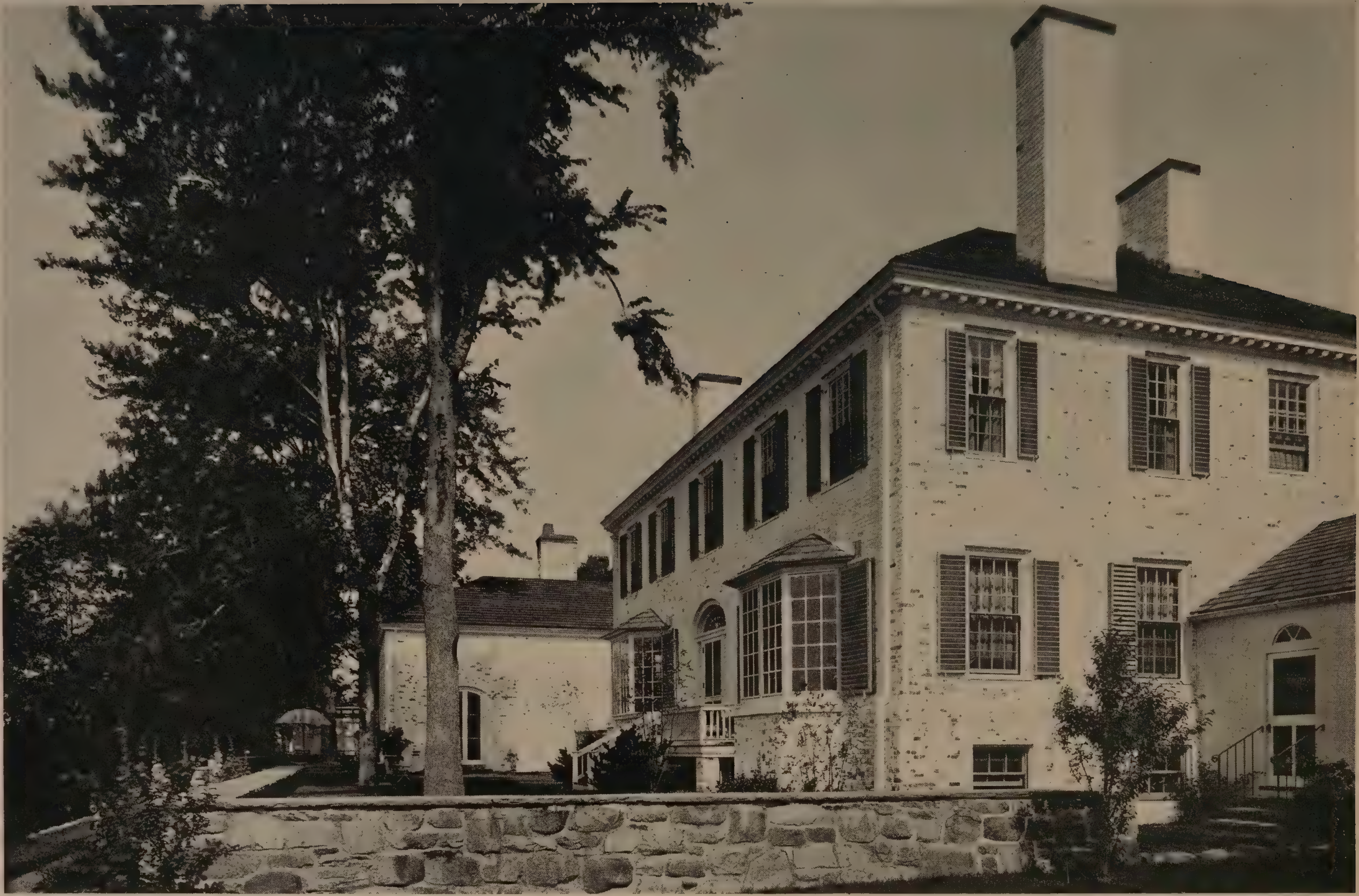


Second Floor Plan

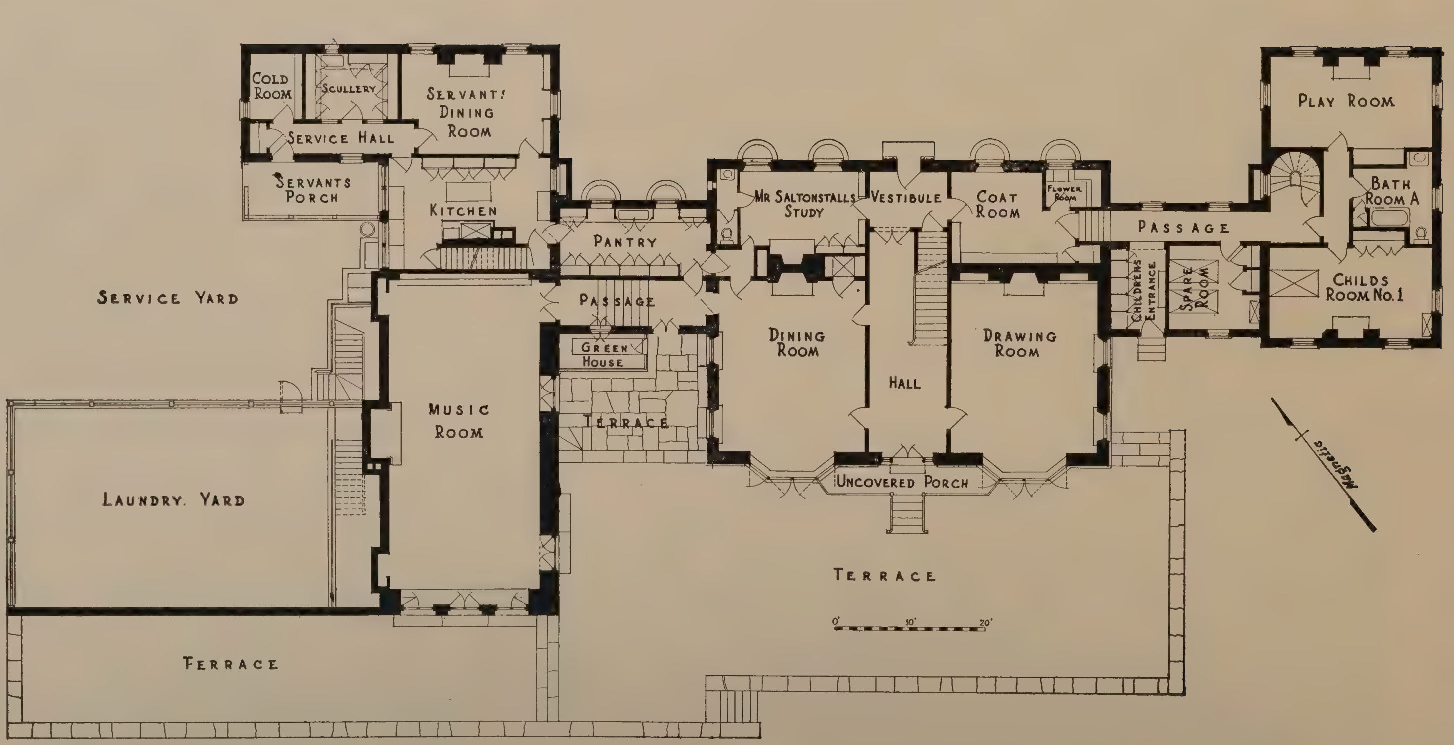


First Floor Plan

RESIDENCE OF H. F. C. STIKEMAN, ESQ., CHESTNUT HILL, PENNA.
Mellor, Meigs & Howe, Architects



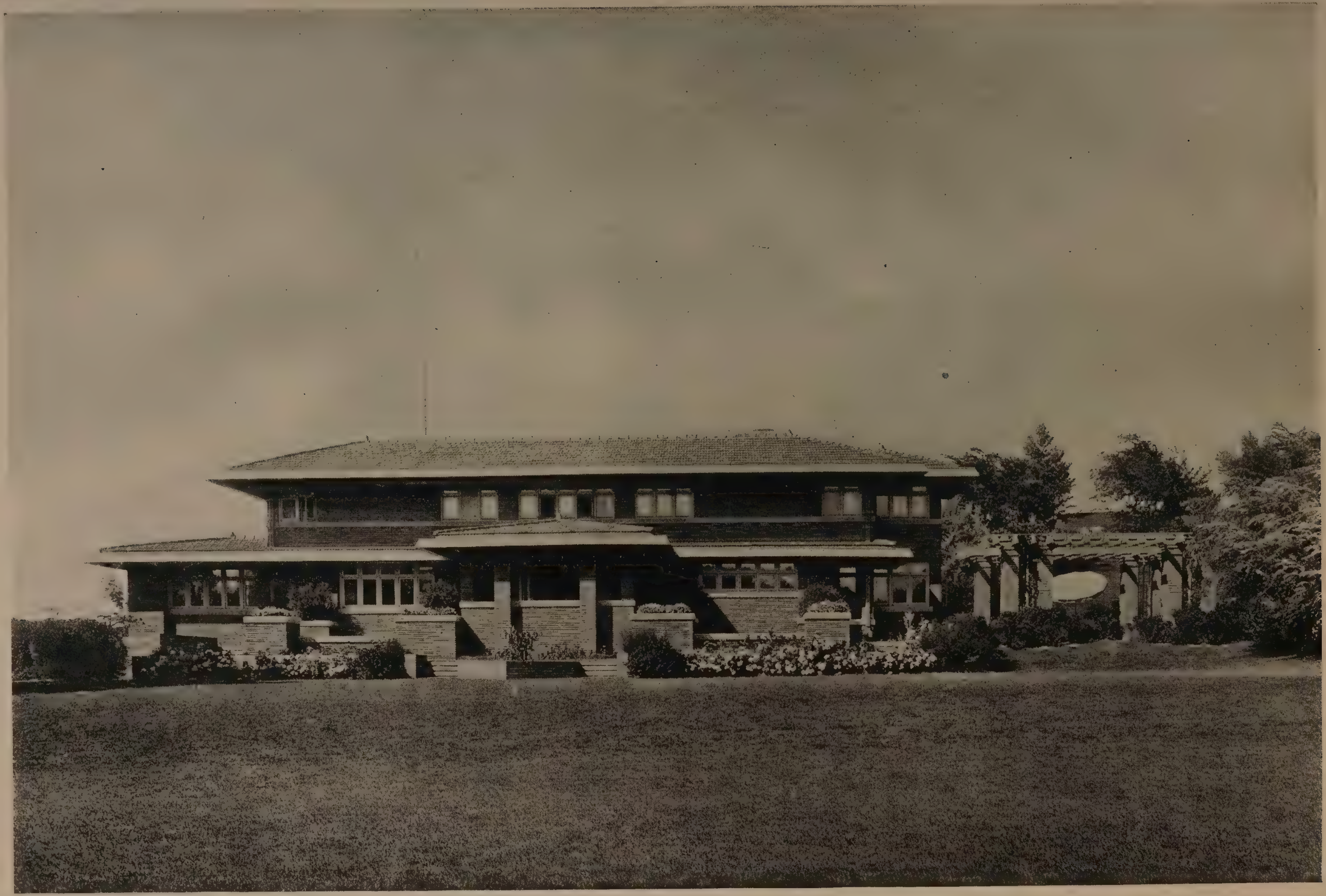
RESIDENCE OF JOHN L. SALTONSTALL, ESQ., TOPSFIELD, MASSACHUSETTS
Richardson, Barott & Richardson, Architects



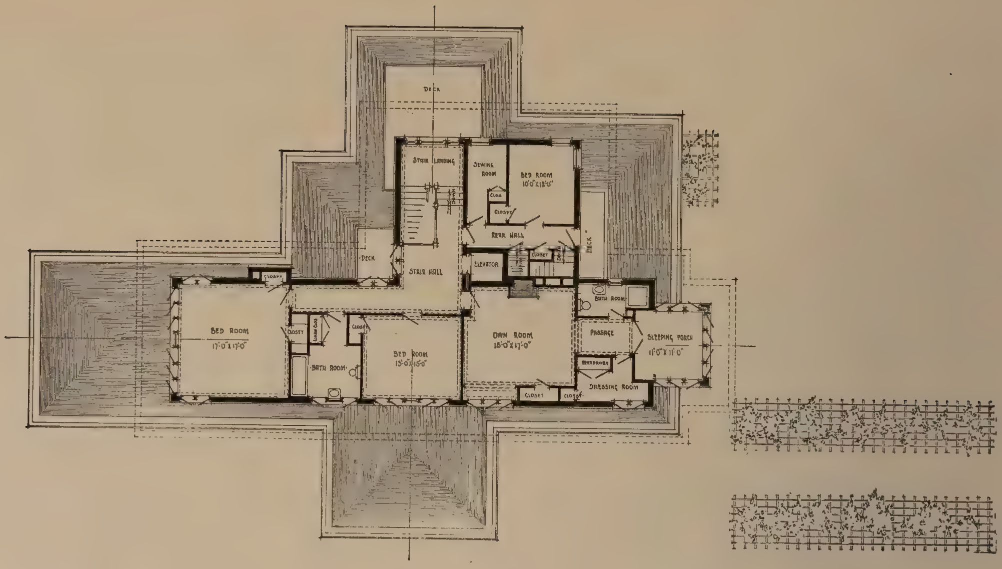
Floor Plan

RESIDENCE OF JOHN L. SALTONSTALL, ESQ., TOPSFIELD, MASSACHUSETTS

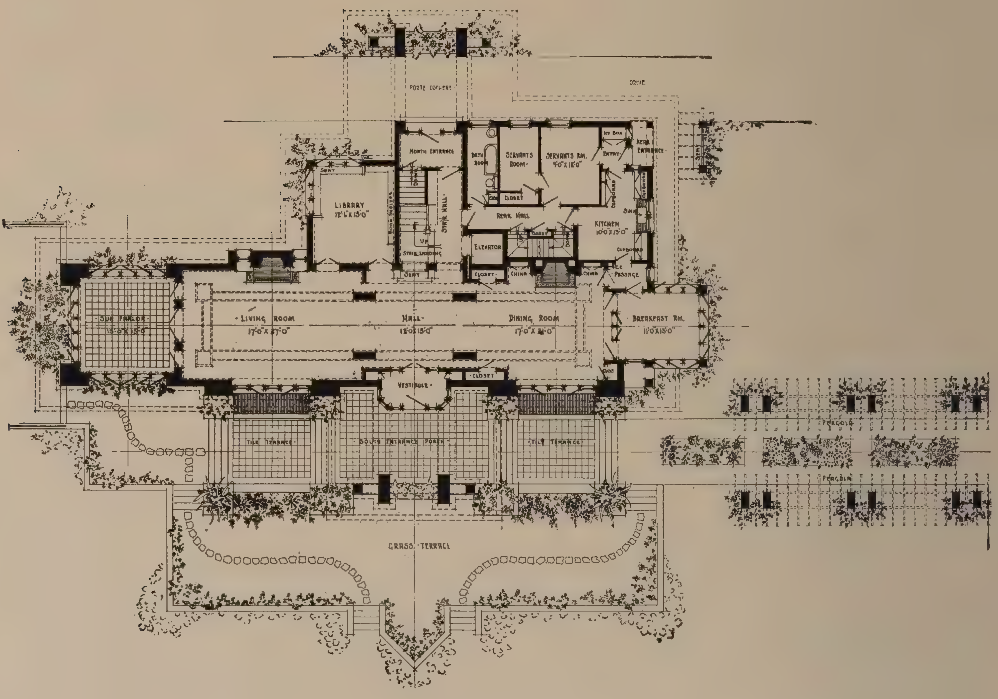
Richardson, Barott & Richardson, Architects



RESIDENCE OF H. H. EVERIST, ESQ., SIOUX CITY, IOWA
William L. Steele, Architect



Second Floor Plan



First Floor Plan

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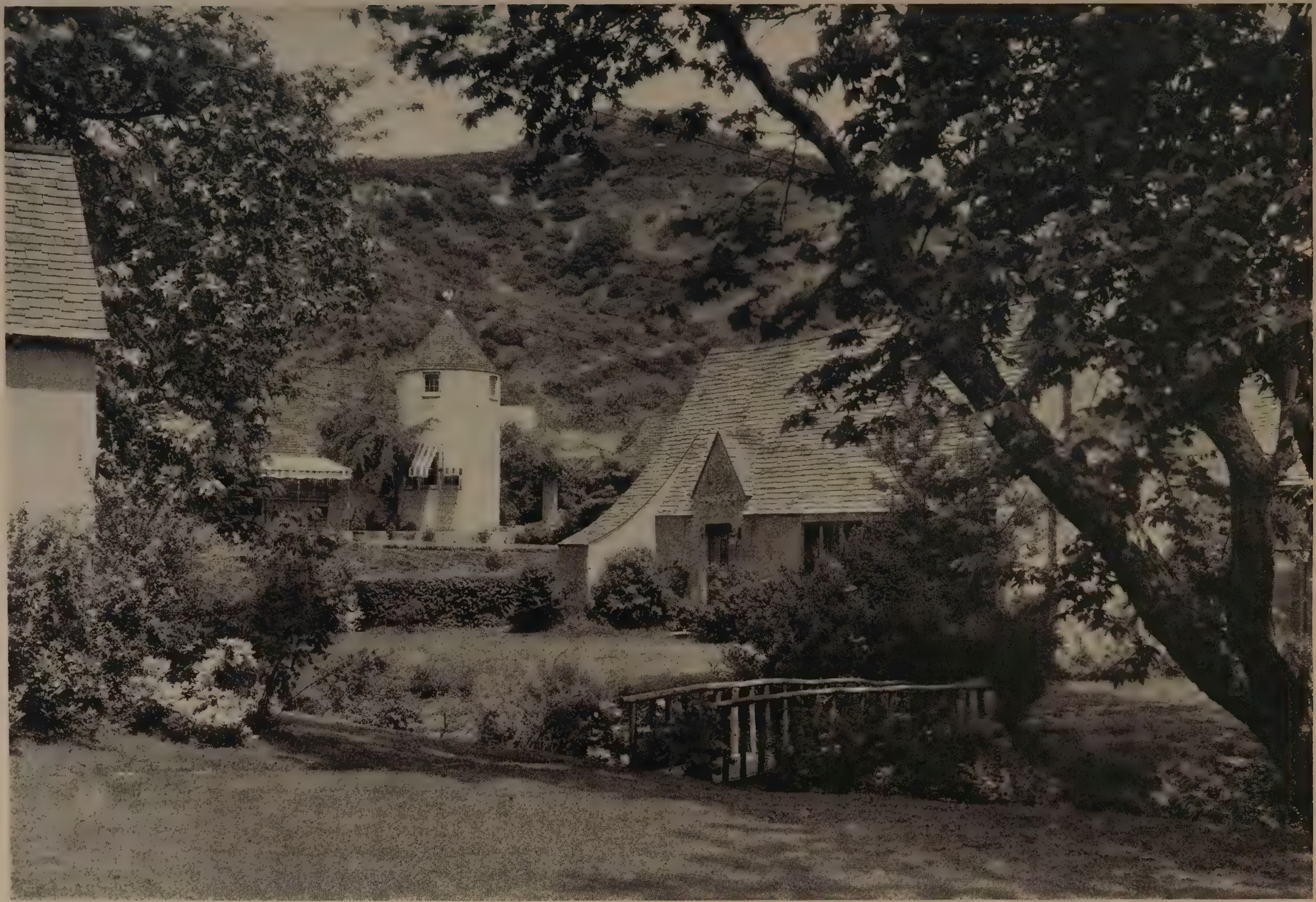
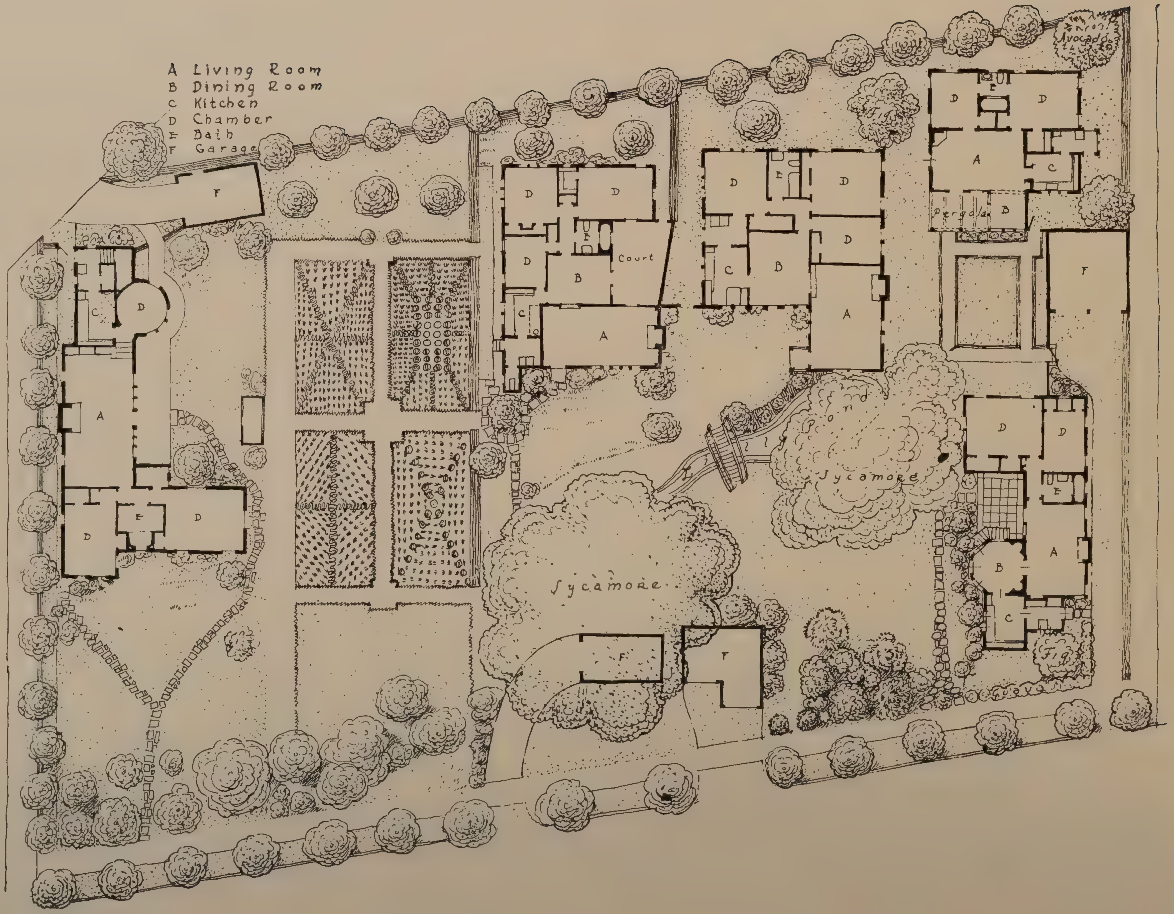
William L. Steele, Architect

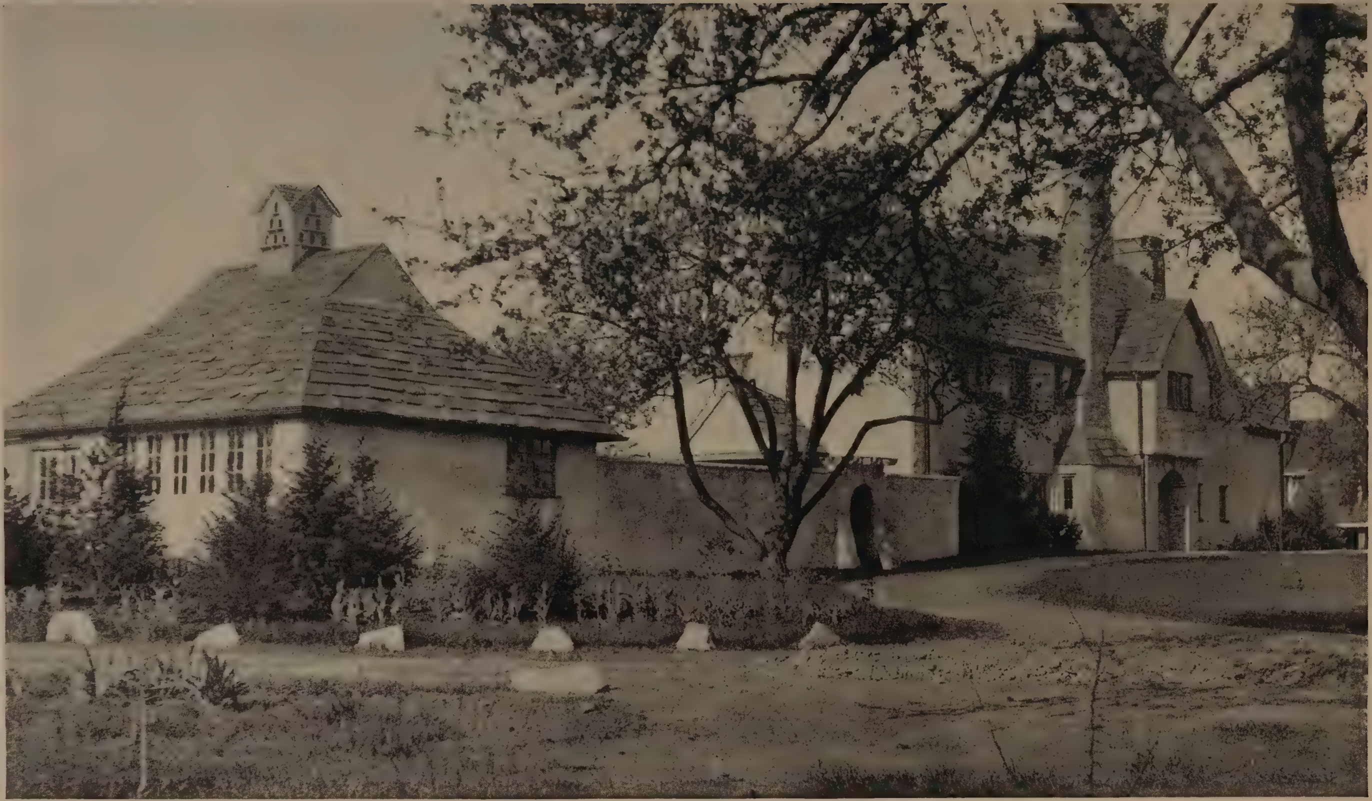


GROUP OF HOUSES IN "THE FRENCH VILLAGE," HOLLYWOOD, CALIFORNIA
Pierpont & Walter S. Davis, Architects

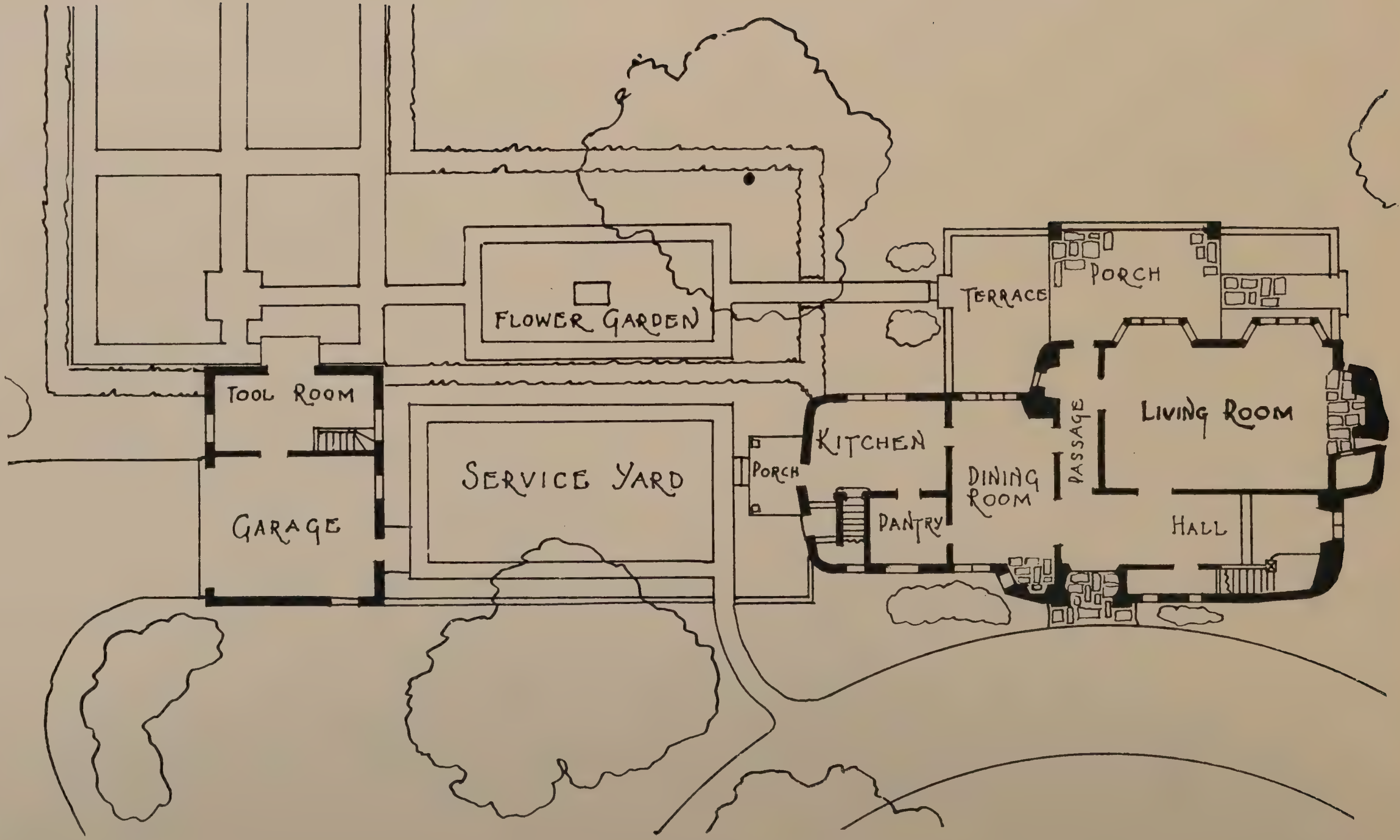


LAYOUT OF "THE FRENCH VILLAGE," HOLLYWOOD, CALIFORNIA

Pierpont & Walter S. Davis, Architects



RESIDENCE OF S. V. NORTON, ESQ., BLOOMFIELD HILLS, MICHIGAN
Howard Shaw, Architect



Floor Plan
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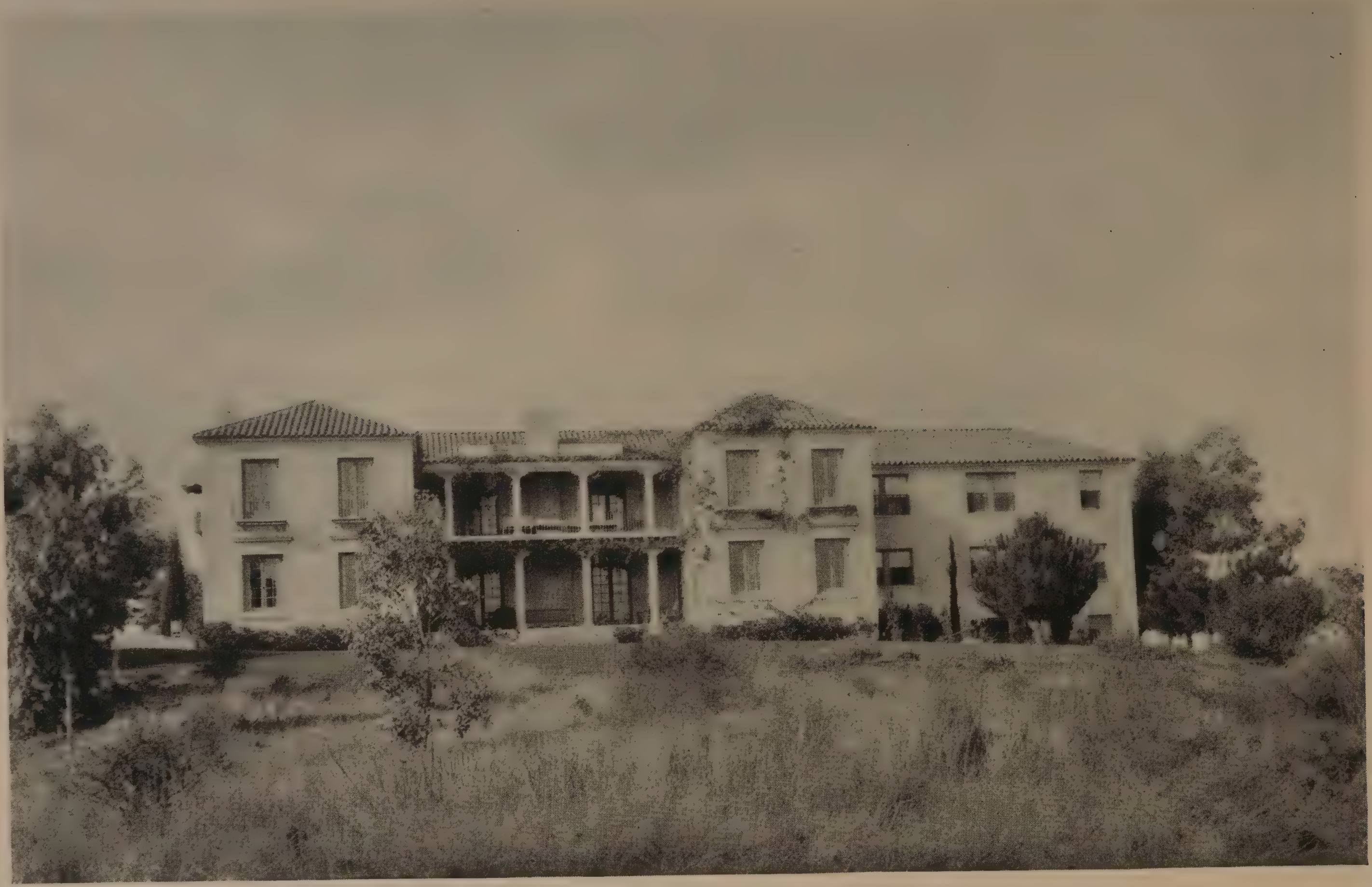
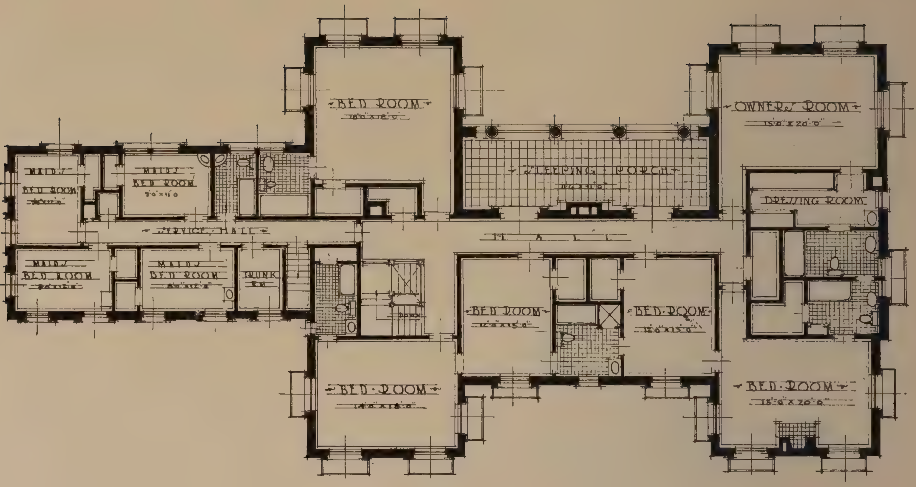
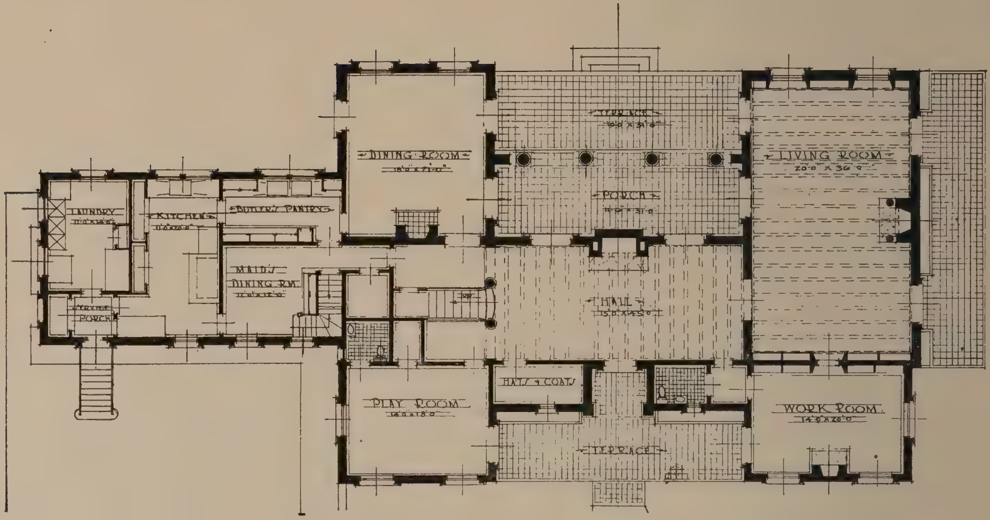
Howard Shaw, Architect



RESIDENCE OF WILLIAM TEMPLETON JOHNSON, ESQ., SAN DIEGO, CALIFORNIA
Wm. Templeton Johnson, Architect



Second Floor Plan



First Floor Plan

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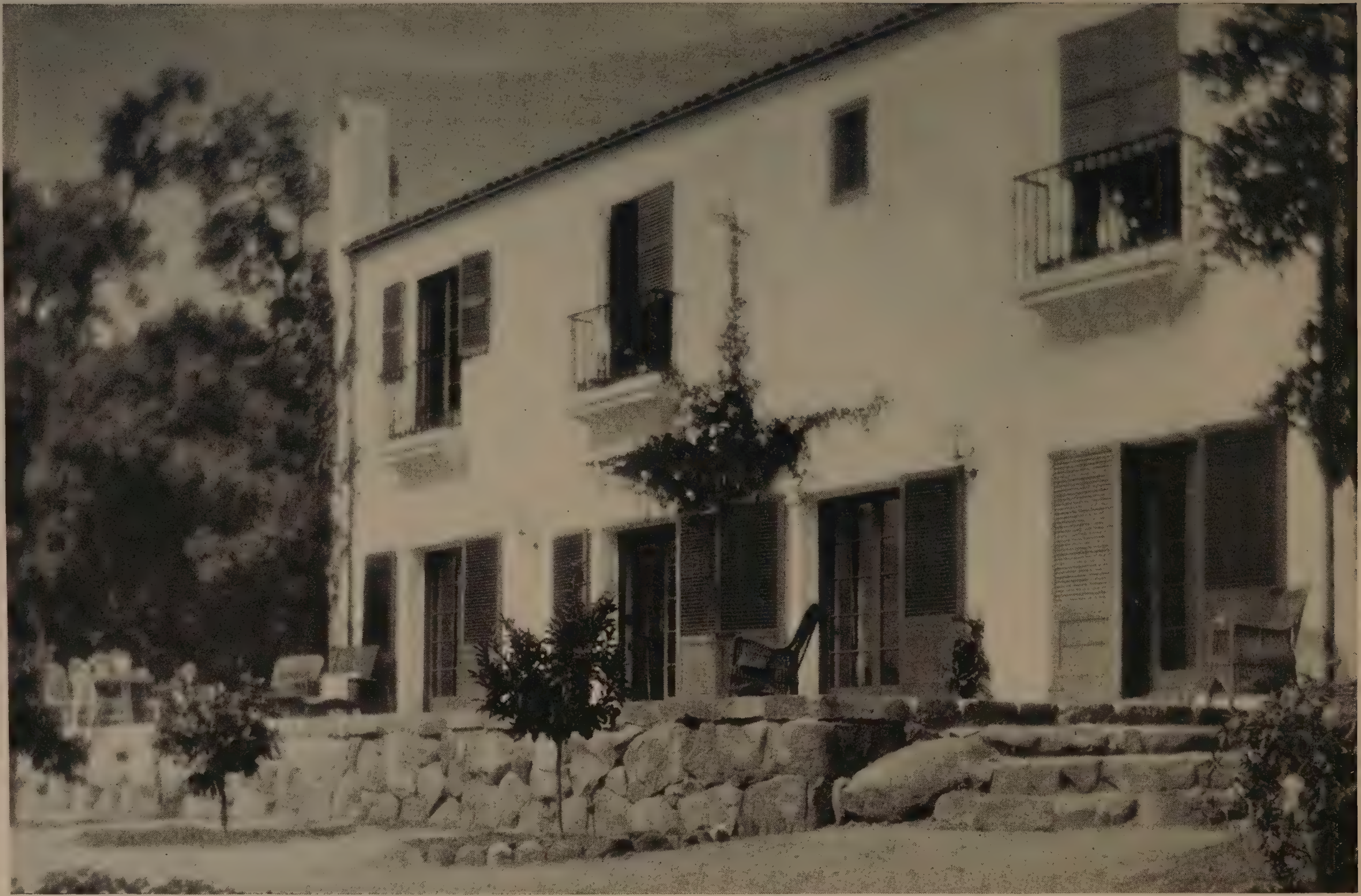
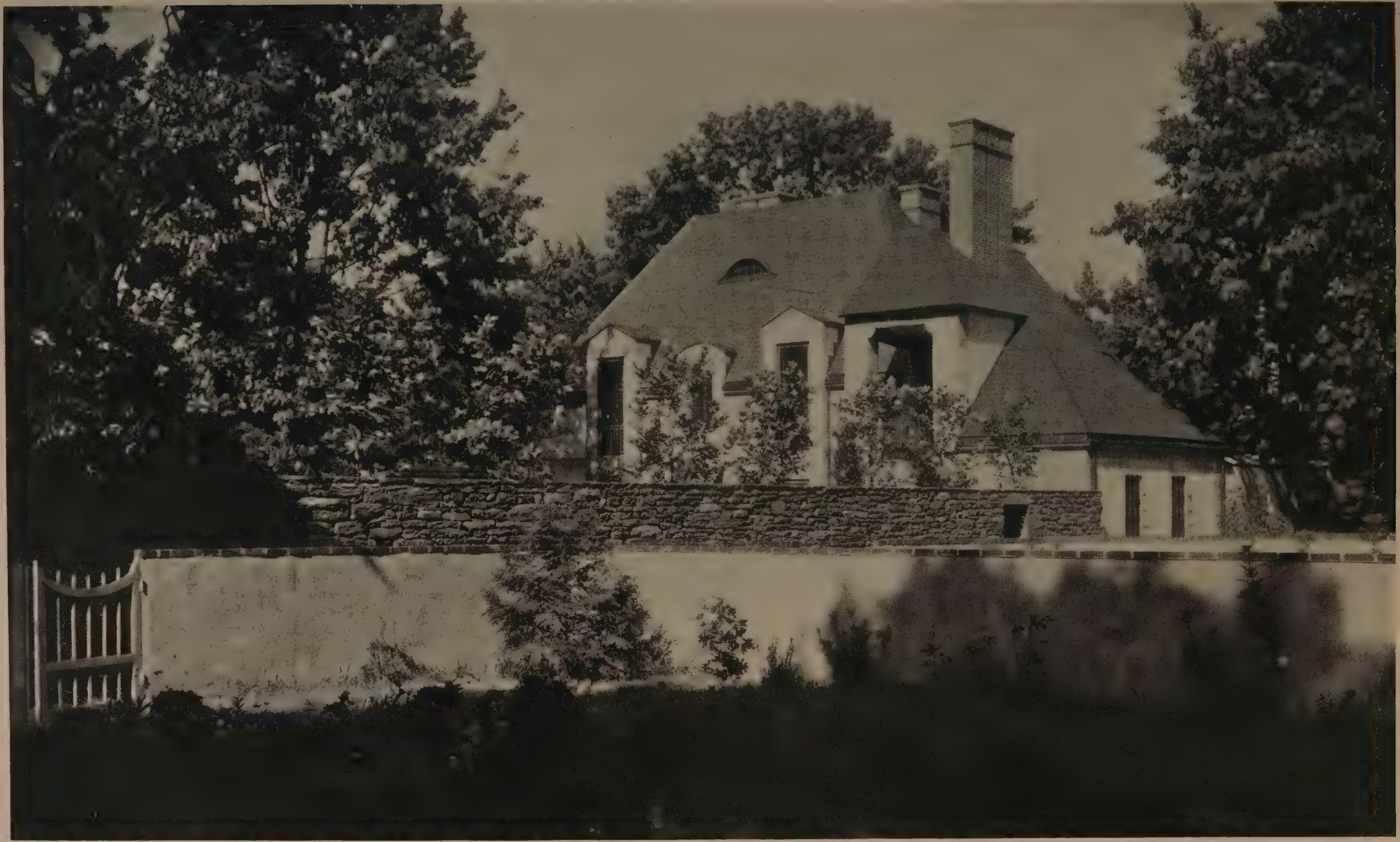
Wm. Templeton Johnson, Architect



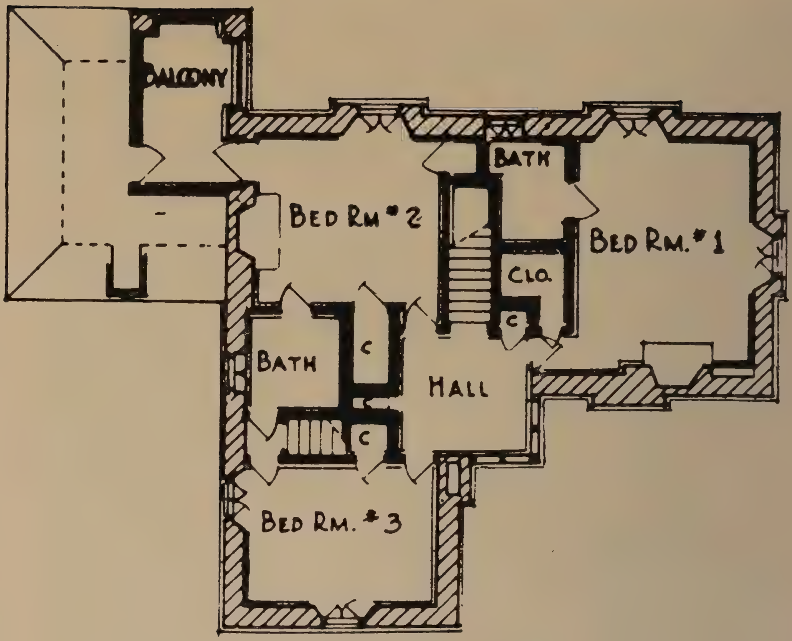
RESIDENCE OF IRVING WRIGHT, ESQ., SANTA BARBARA, CALIFORNIA

George Washington Smith, Architect



RESIDENCE OF MRS. JOSEPH C. FRALEY, CHESTNUT HILL, PENNA.

Mellor, Meigs & Howe, Architects



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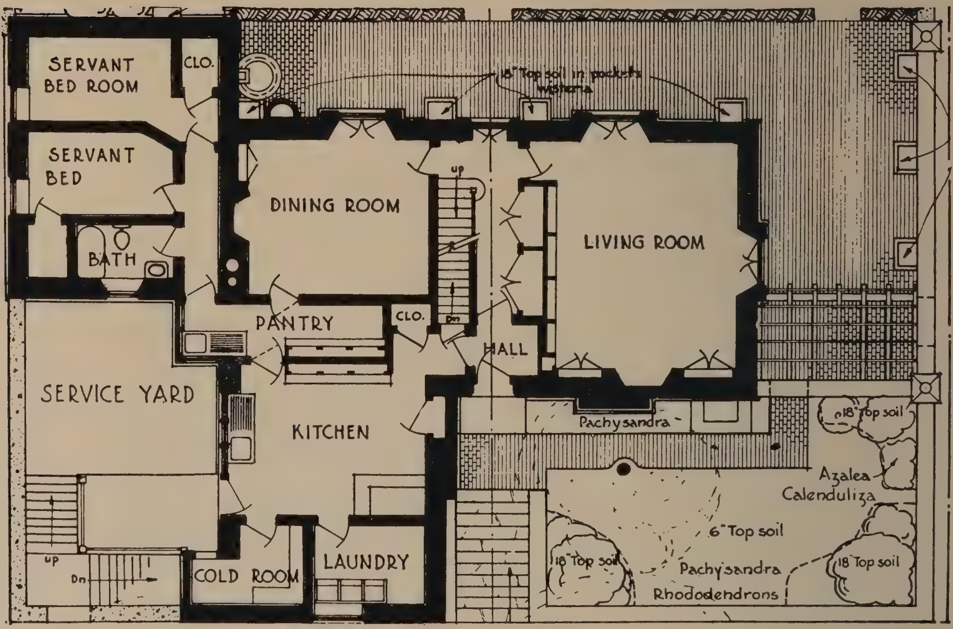

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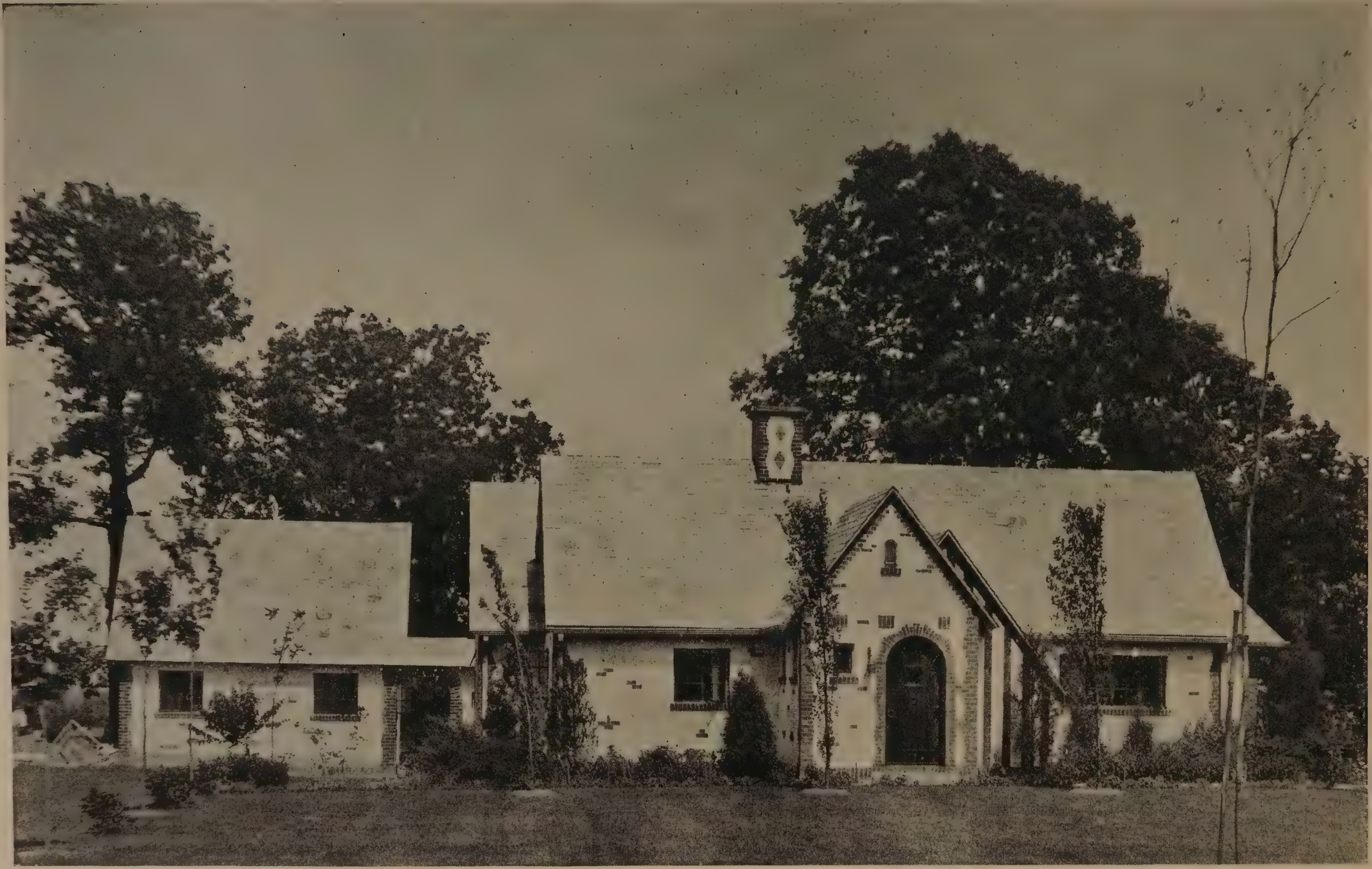
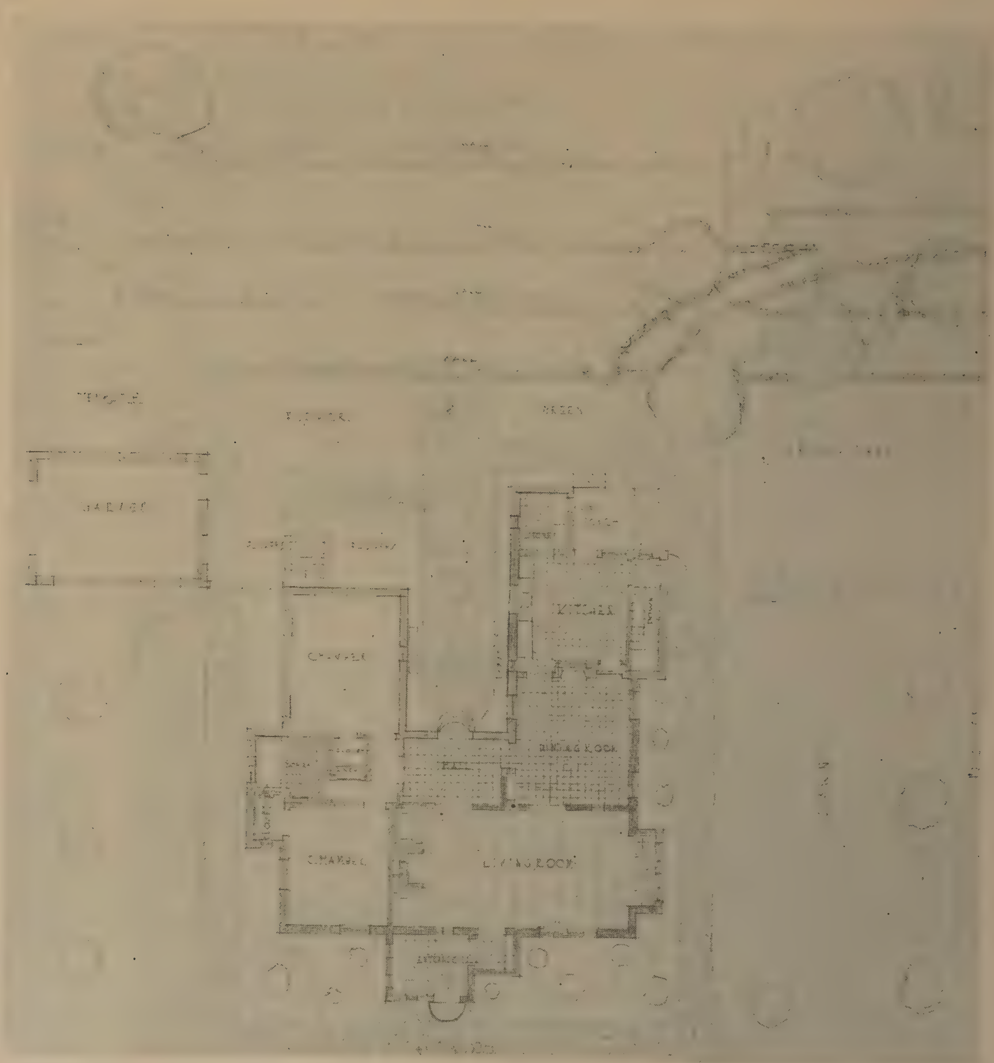
Mellor, Meigs & Howe, Architects



COTTAGE OF J. E. ROBINSON, ESQ., CRYSTAL CITY, MISSOURI
J. E. Robinson, Architect



Floor and Garden Plan
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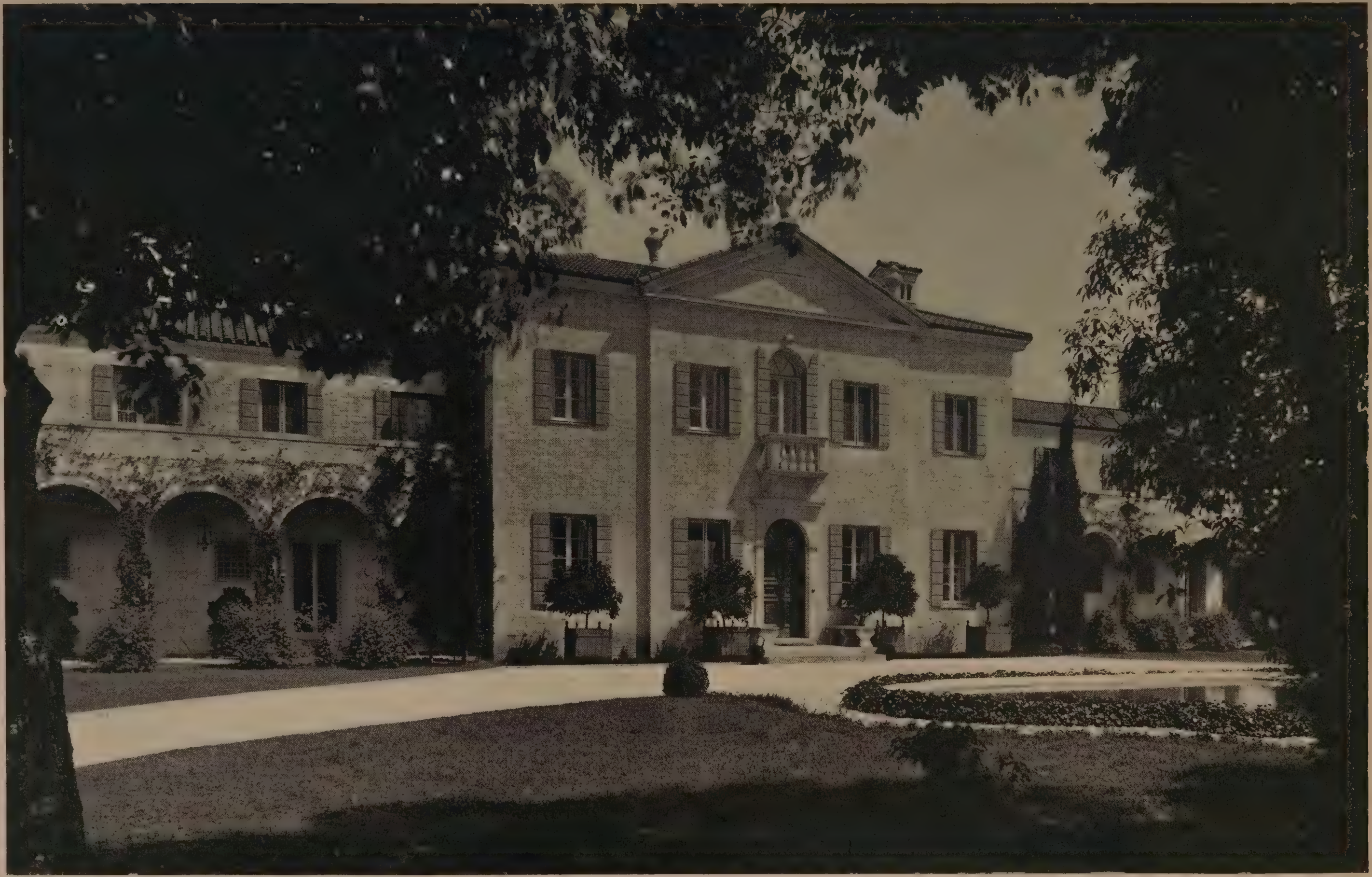
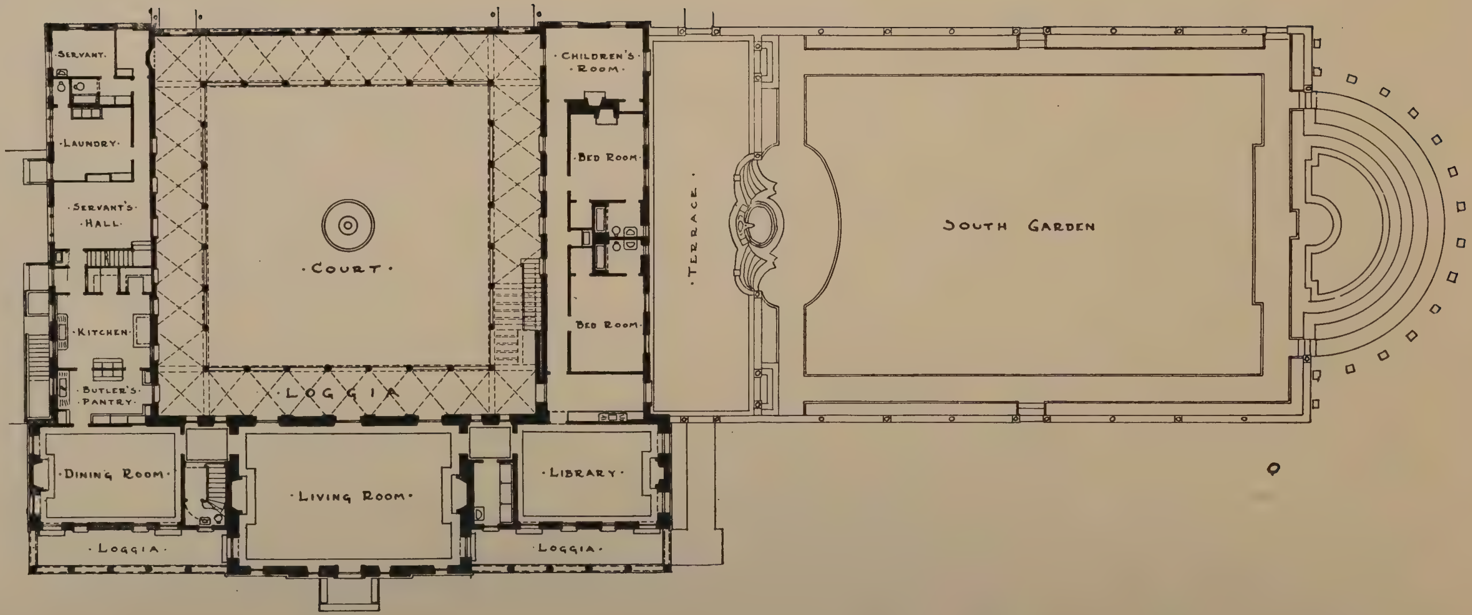
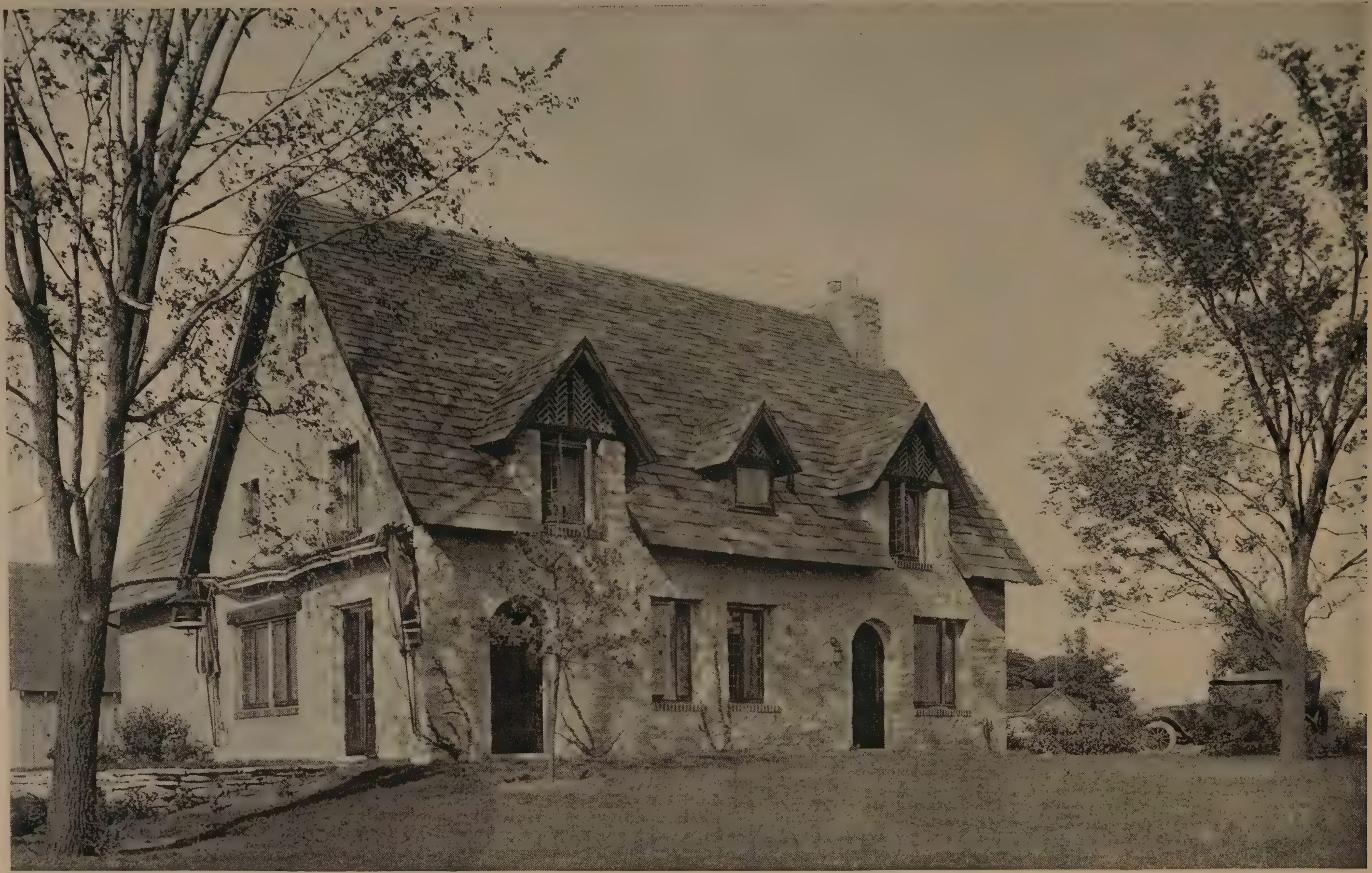
J. E. Robinson, Architect



RESIDENCE OF R. T. CRANE, JR., ESQ., JEKYL ISLAND, GEORGIA
David Adler and Robert Work, Architects

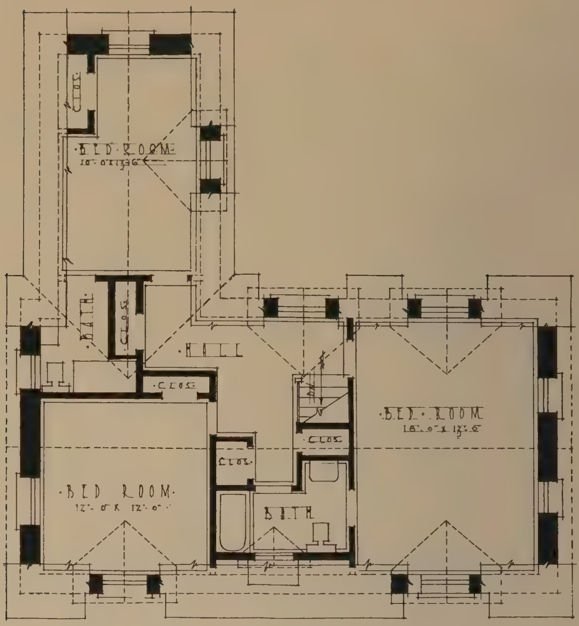


Floor Plan and South Garden
RESIDENCE OF R. T. CRANE, JR., ESQ., JEKYL ISLAND, GEORGIA
David Adler and Robert Work, Architects

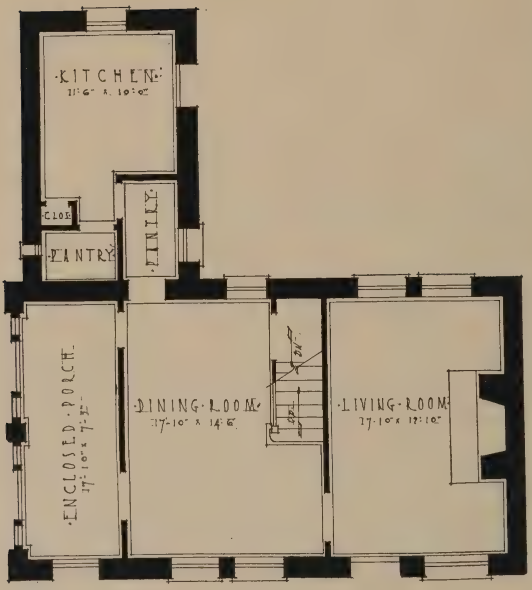


RESIDENCE OF RALPH F. BIXBY, ESQ., ST. LOUIS, MISSOURI

Ferrand & Fitch, Architects



Second Floor Plan



First Floor Plan

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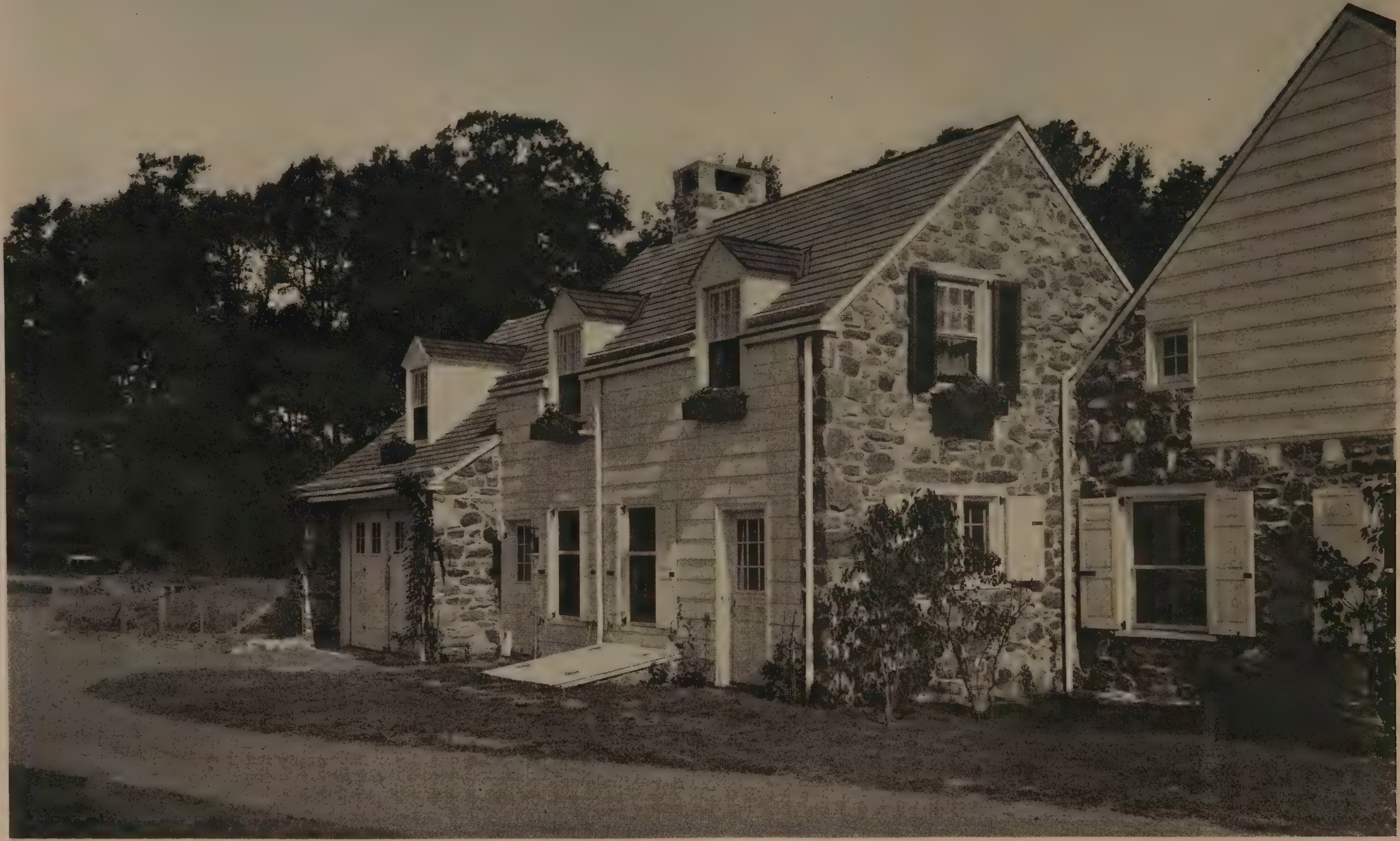
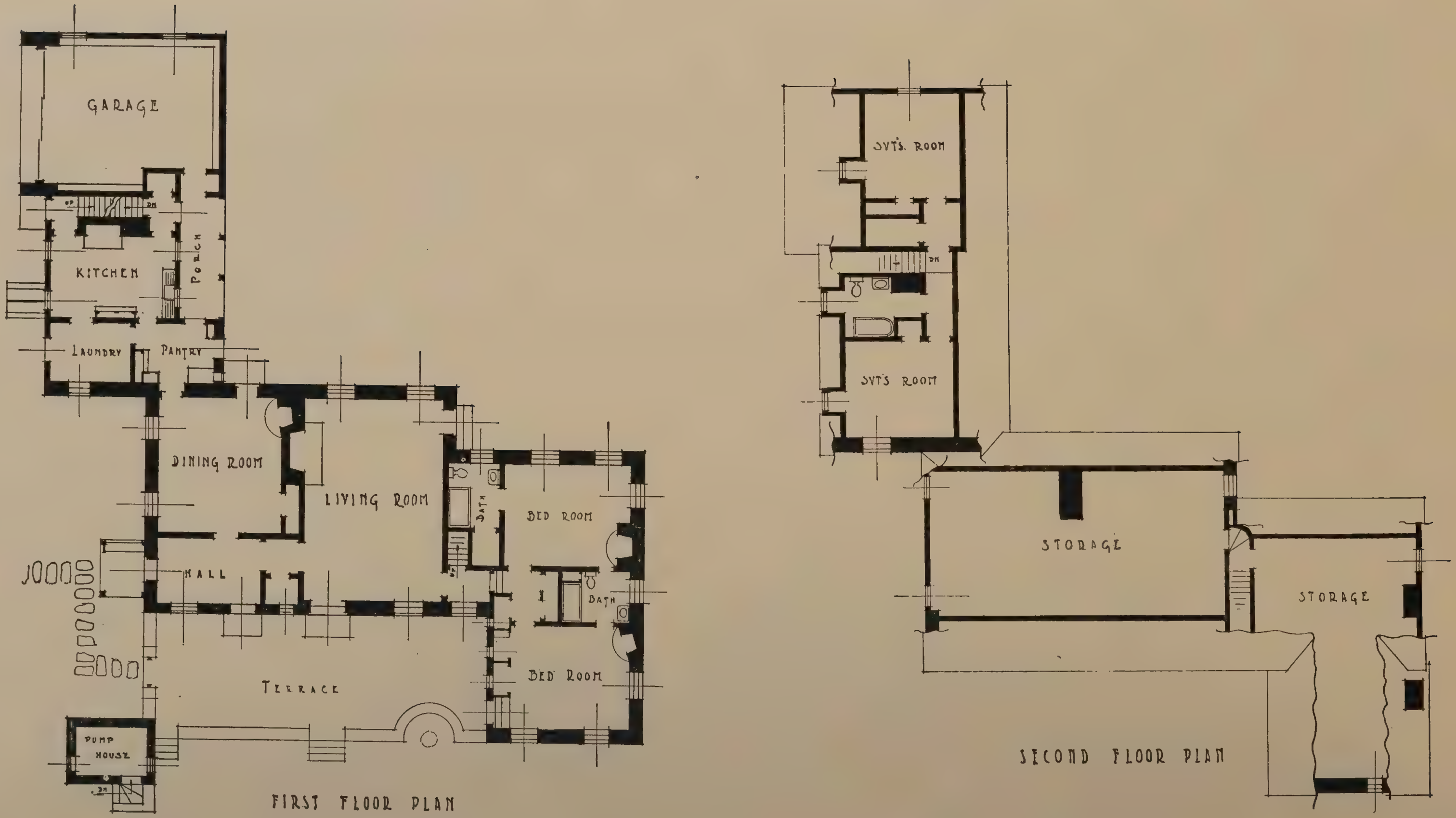
Ferrand & Fitch, Architects



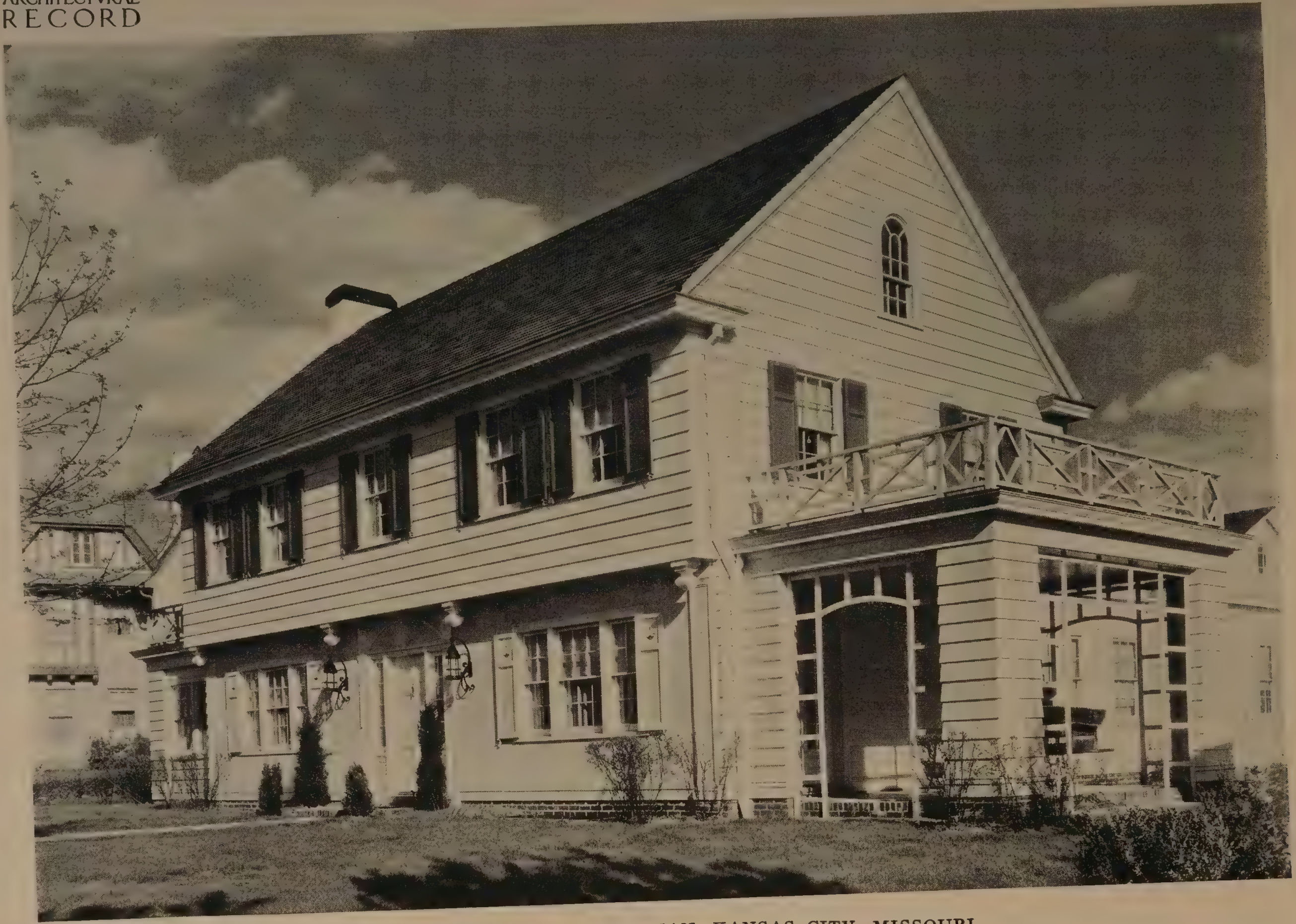
RESIDENCE OF CHARLES P. STOKES, ESQ., NARBERTH, PENNSYLVANIA
R. Brognard Okie, Architect



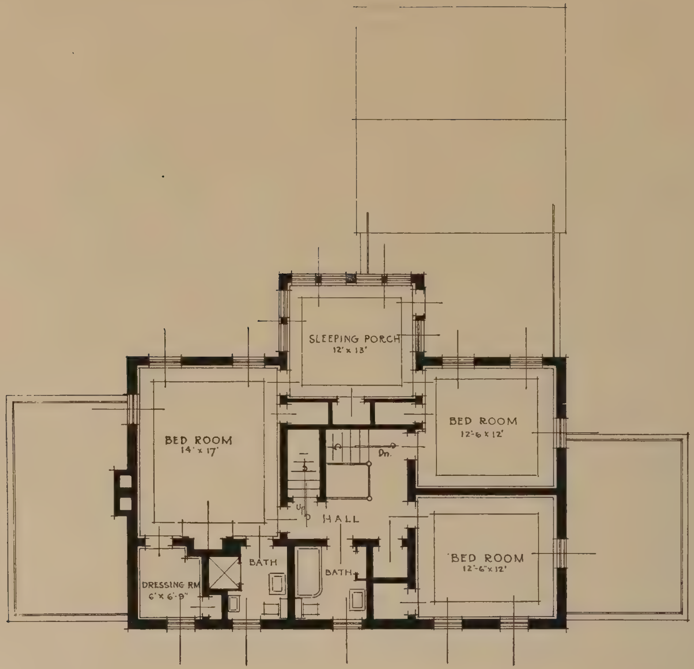
FIRST FLOOR PLAN

SECOND FLOOR PLAN

RESIDENCE OF CHARLES P. STOKES, ESQ., NARBERTH, PENNSYLVANIA
R. Brognard Okie, Architect

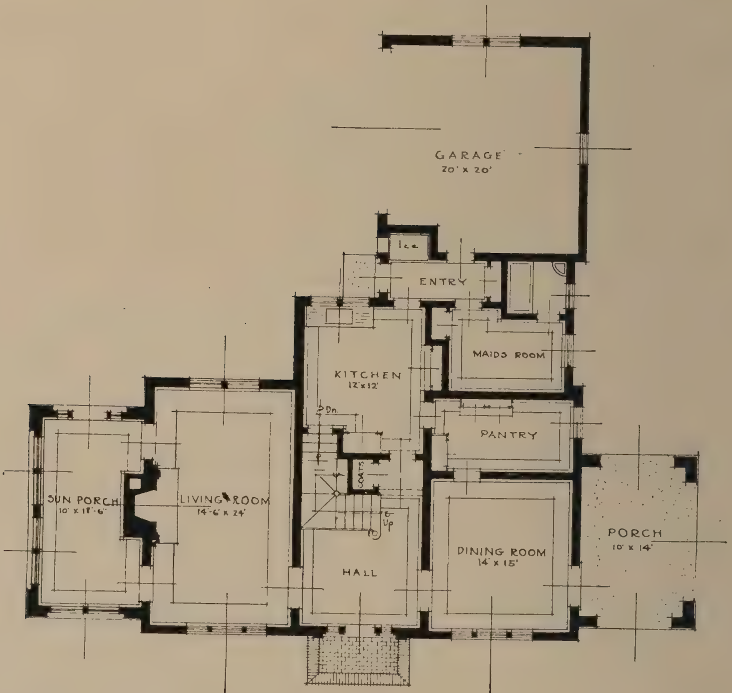


RESIDENCE OF DR. A. C. ERDMAN, KANSAS CITY, MISSOURI
Edward Buehler Delk, Architect

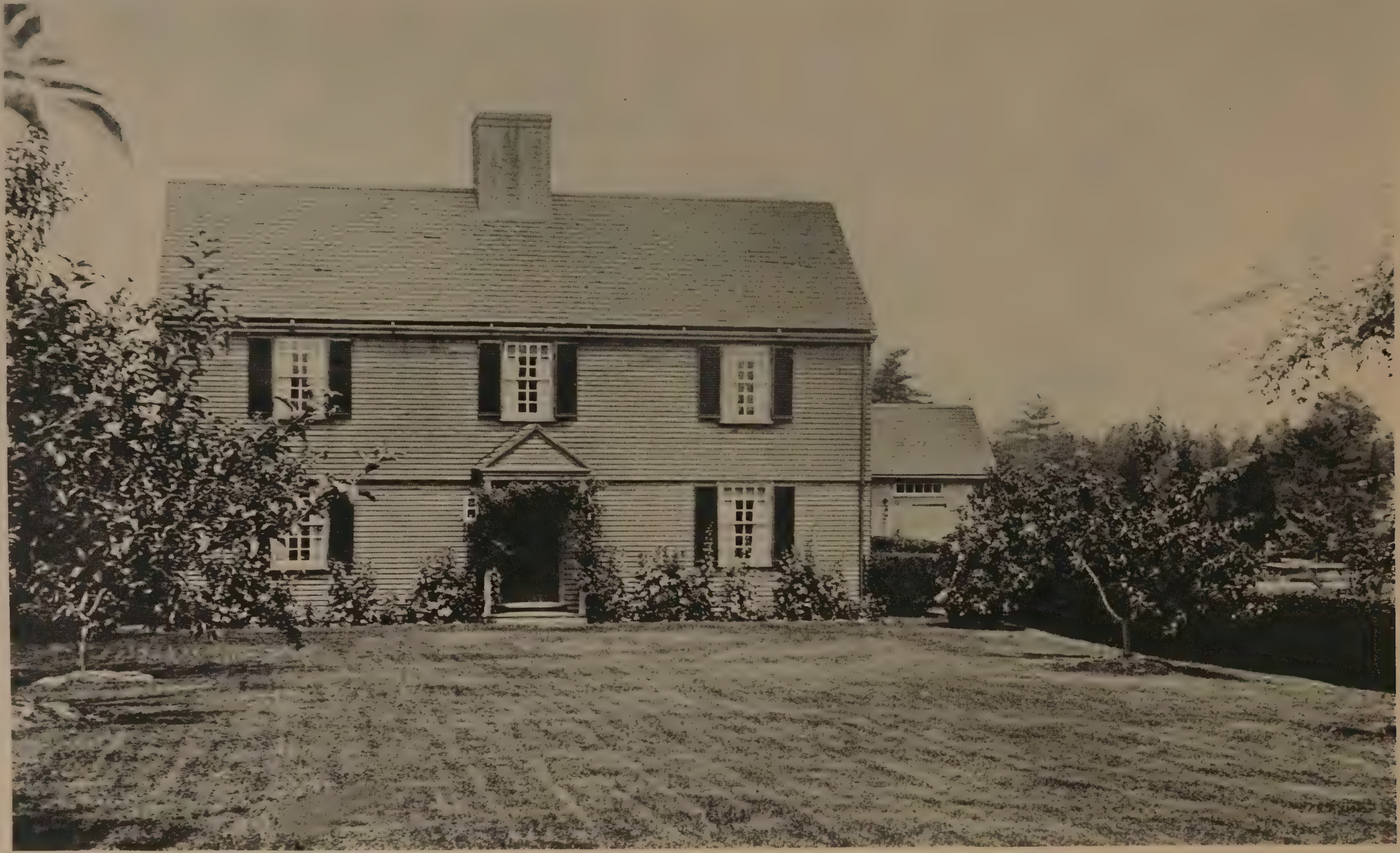


Second Floor Plan

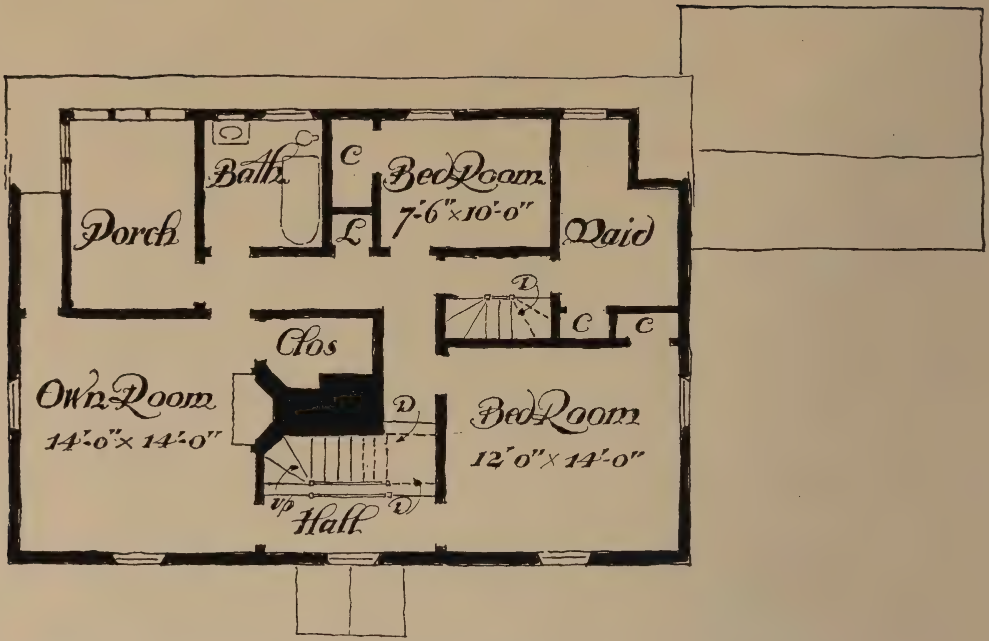
First Floor Plan



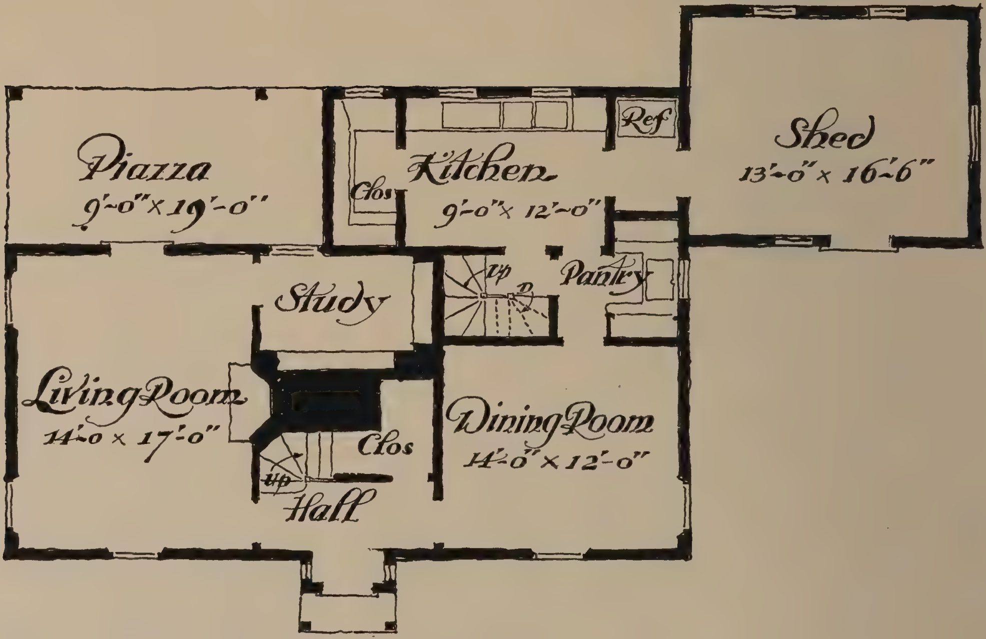
RESIDENCE OF DR. A. C. ERDMAN, KANSAS CITY, MISSOURI
Edward Buehler Delk, Architect



RESIDENCE OF ANSON BARTON, JR., ESQ., STONEHAM, MASSACHUSETTS
Derby & Robinson, Architects

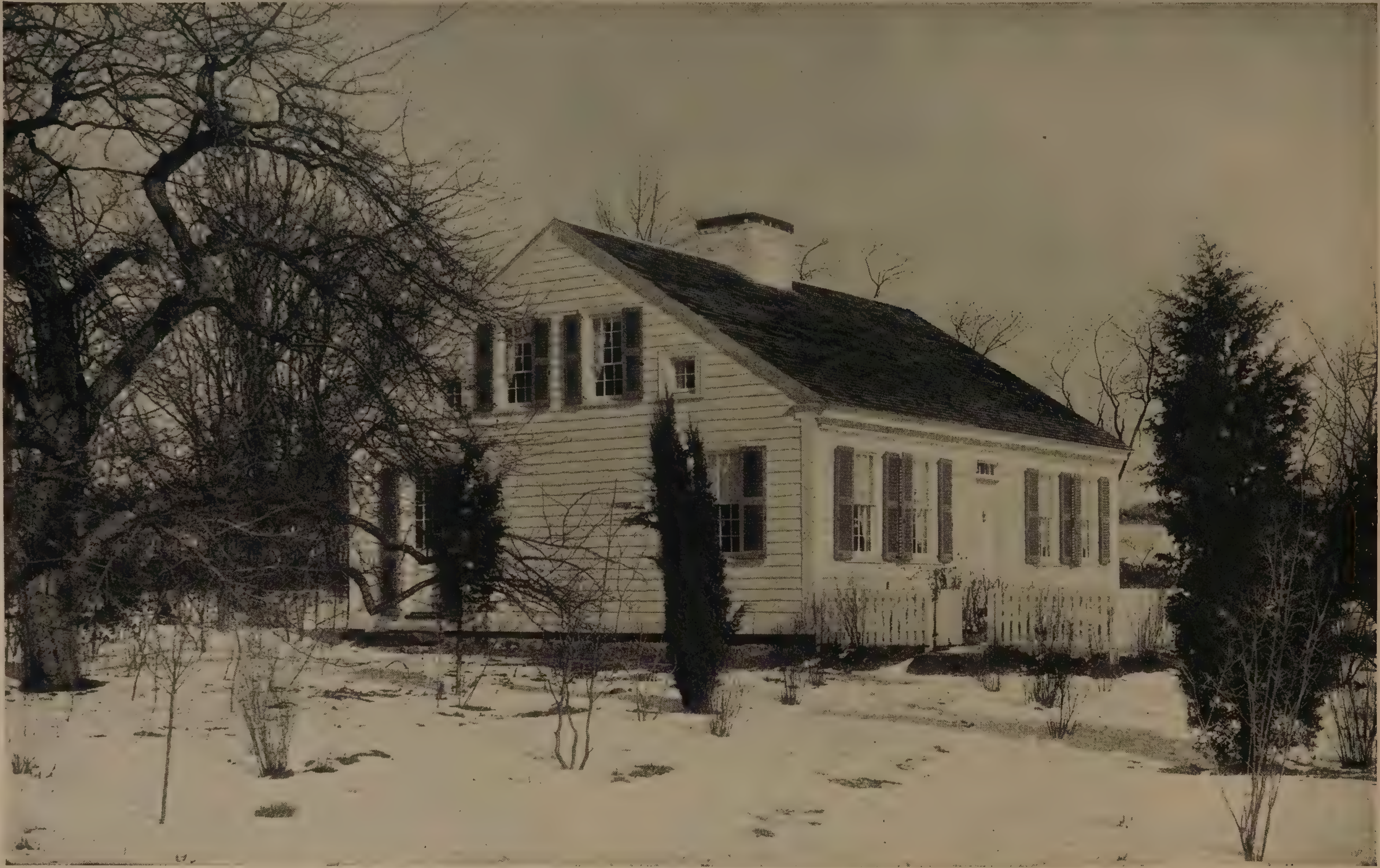


Second Floor Plan



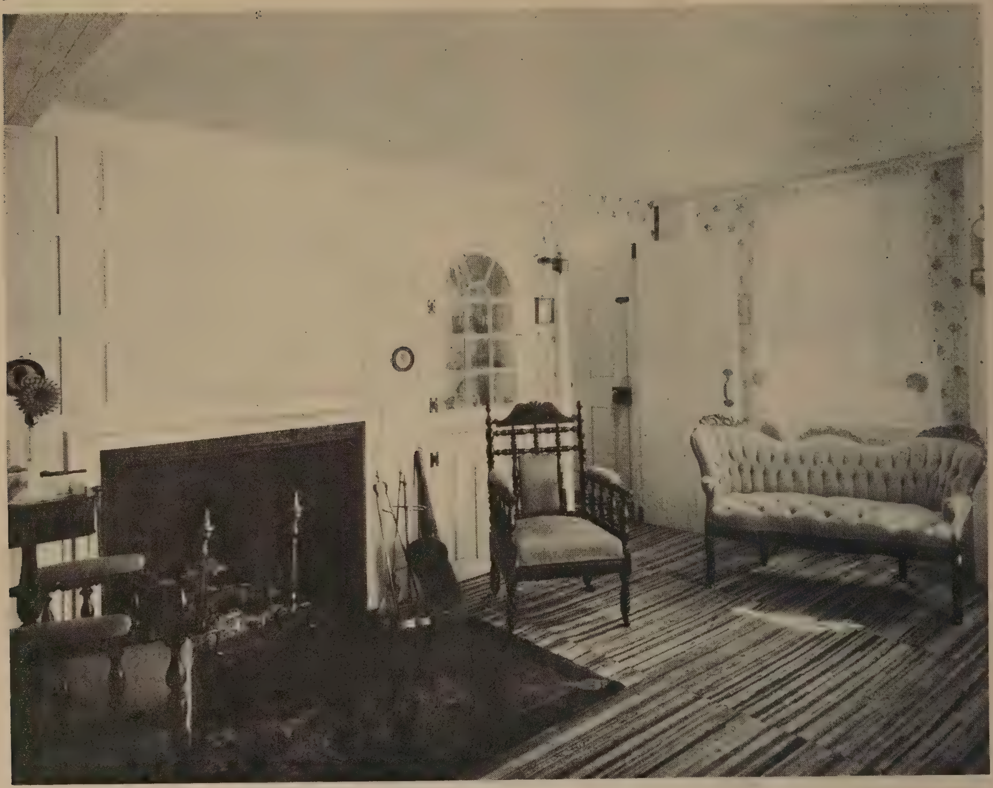
First Floor Plan

RESIDENCE OF ANSON BARTON, JR., ESQ., STONEHAM, MASSACHUSETTS
Derby & Robinson, Architects

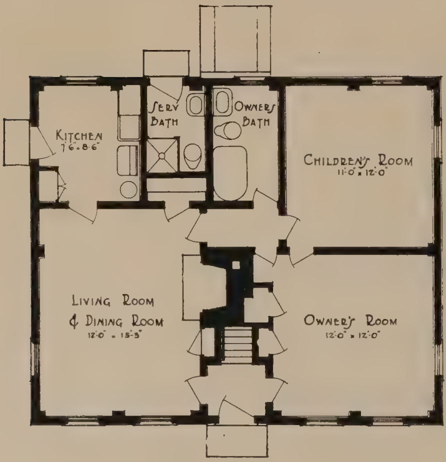


"JANE'S ACRE", RESIDENCE OF E. P. MELLON, ESQ., BEDFORD, NEW YORK

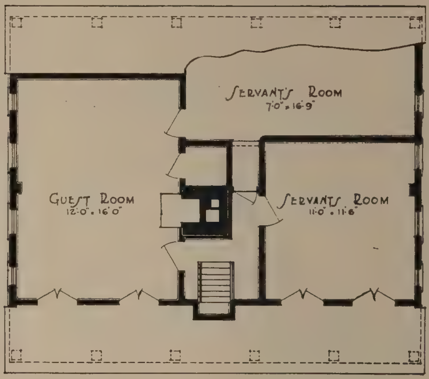
E. P. Mellon, Architect



Living Room



First Floor Plan



Second Floor Plan

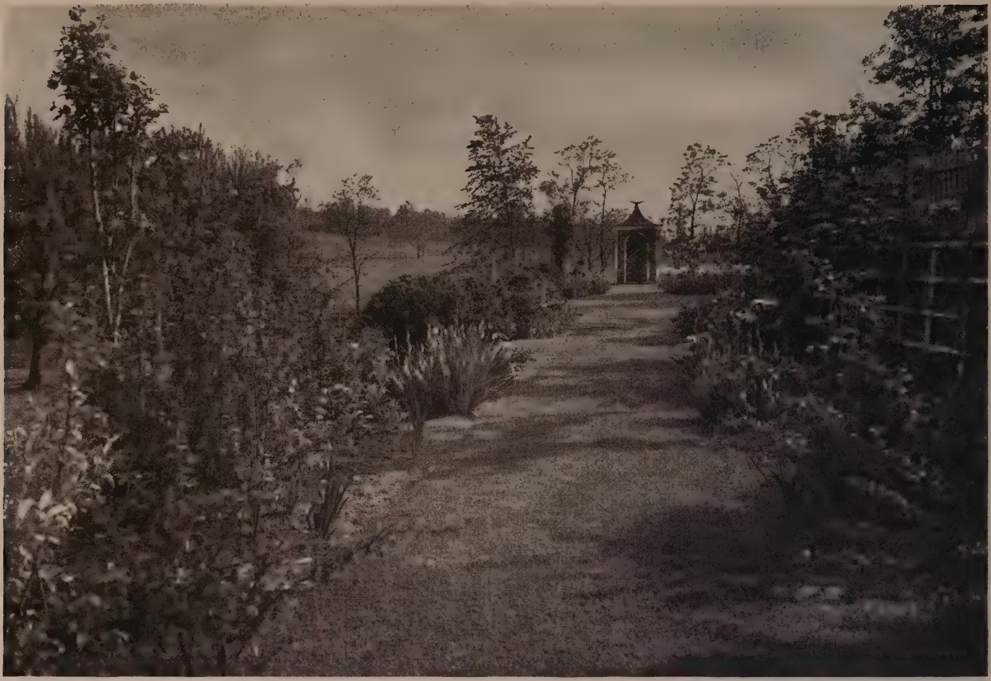
"JANE'S ACRE", RESIDENCE OF E. P. MELLON, ESQ., BEDFORD, NEW YORK
E. P. Mellon, Architect

ENTRANCE GATES—MONROE DOUGLAS ROBINSON ESTATE, SYOSSET, L. I.
Ruth Dean, Landscape Architect

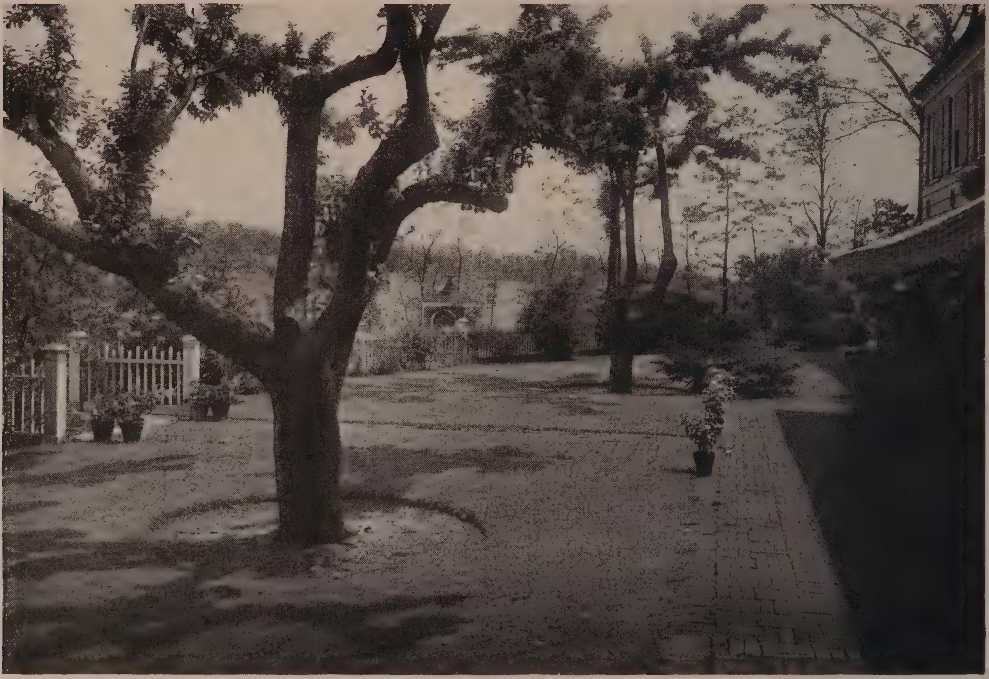
WE HAVE had occasion to point out that good architecture is based upon two principles, sound design and good taste, and that no great architecture can exist without these two elements. We reiterate this axiom, this fundamental of the art. We have commented on the fact that sound design was usually to be found in the better part of our work, but that much of even our good work was without charm, because while our designers showed thorough knowledge of proportion and a mastery of the lineal and spacial elements of design, they neglected or were indifferent to the subtleties of surface and of color which seemed to the man of exquisite taste of almost as great importance as the former, so that, while our excellent buildings were many, our inspiring ones were few. It is invidious to mention names; but it is only too easy to find the feet these shoes may fit.

Then, quite suddenly came the great discovery that American homes lacked charm. Forthwith American architects went about the business of providing it; as the decorators say, they gave their houses "atmosphere." The results have been, to say the least, various. We have had more magnificently successful country houses in these last few years, sometimes great houses and sometimes small ones, and in all of them have been apparent the qualities which make us believe our architecture is a living art; a real development of the exterior from the plan and from the necessities of the site, a genuine feeling for mass and fenestration, and a logical use of materials in such a way as to accentuate the values of the design. The principal difference between current work of the best sort and that of twenty years ago, is in the more thoughtful use of texture and color, and a greater consideration of landscape (either natural or developed) as a part of design. We no longer regard a tree as an unfortunate accident, and have come to consider each portion of a façade in relation to its surroundings.

On the other hand, the architect who has not perceived that charm is something inherent in perfect work but regards it as a thing which can be drawn or specified into a house as definitely as a slate roof and as independent of other



Flower Garden

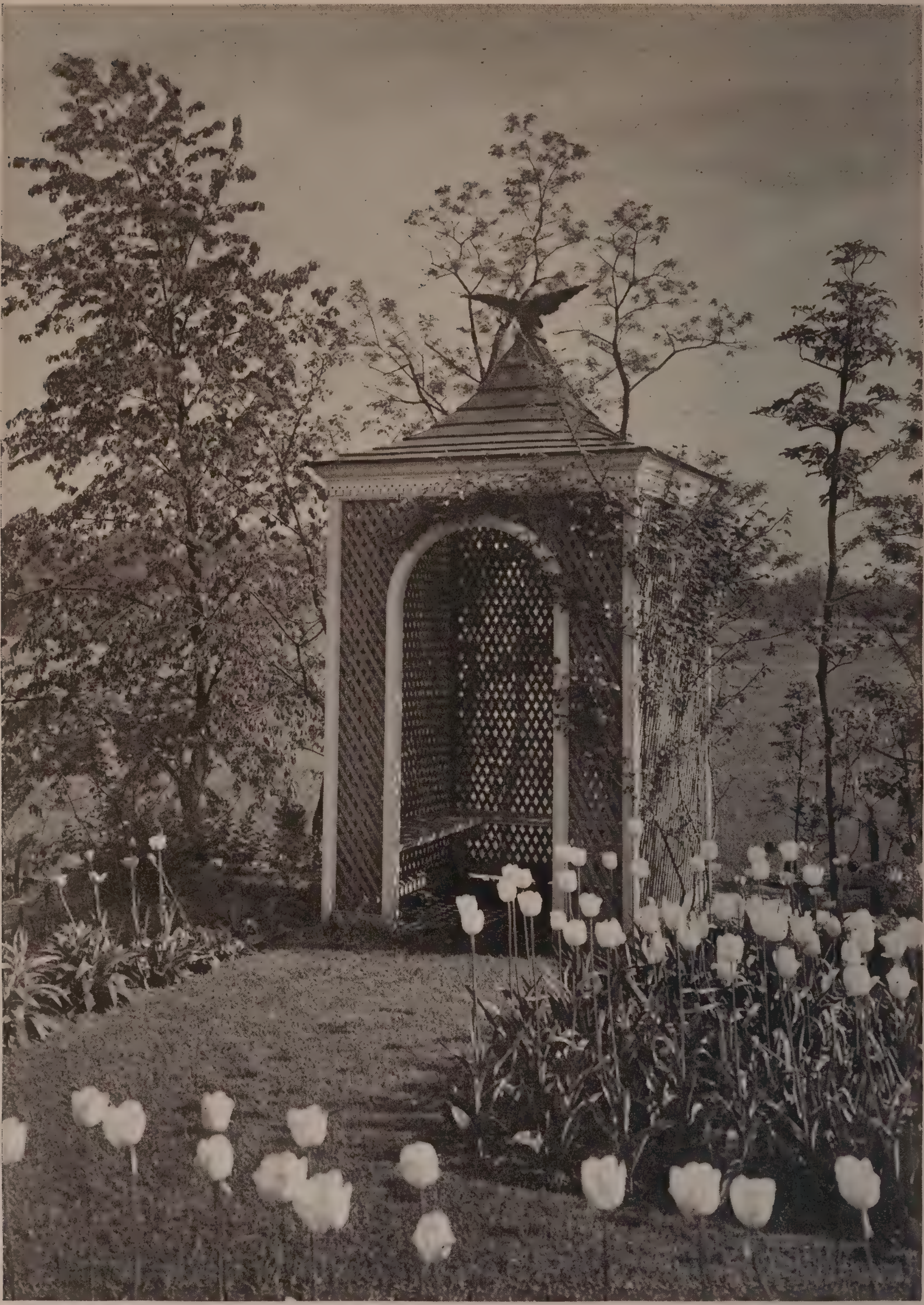


Terrace
MONROE DOUGLAS ROBINSON ESTATE, SYOSSET, LONG ISLAND
Ruth Dean, Landscape Architect

factors, has produced a great number of "stunt" houses, which attract immediately, but eventually become tiresome. It is this type of man who thinks a ragged and broken slate roof, chopped up timbers and bad brickwork create a house with the charm of the antique. Far be it from us to intimate that a picturesque building is *ipso facto* a poor piece of design, but we do assert that the man who strives for "picturesque charm" regardless of good construction, proper lighting and comfortable plan, is not an architect. He may be a good designer of stage scenery.

Even in houses which are something better than stage scenery (including several in this issue), we find a tendency to consider the parts rather than the whole, a natural reflection of the trend of the times toward the picturesque. In many ways this is perhaps of value, since architecture is not a paper art, and a successful house can often be beautiful from particular points rather than for its general composition. There are many lovely old English manor houses, which would not be ranked very high if they were to be so placed that the mass could be seen as a whole, but which are still perfect in their settings; therefore, when a house is illustrated as a series of delightful details which hardly suggest a perfect and unified composition, it must be remembered that perhaps it is not and never can be seen in its entirety. On the other hand, we have received many photographs of detail either exquisitely correct or of charming qualities which deserved to be applied to far better designed buildings than is the case. For many years we designed masses with little attention to detail, now we design detail with little regard for mass.

Flower Garden
MONROE DOUGLAS ROBINSON ESTATE, SYOSSET, LONG ISLAND
Ruth Dean, Landscape Architect



Garden House
MONROE DOUGLAS ROBINSON ESTATE, SYOSSET, LONG ISLAND
Ruth Dean, Landscape Architect

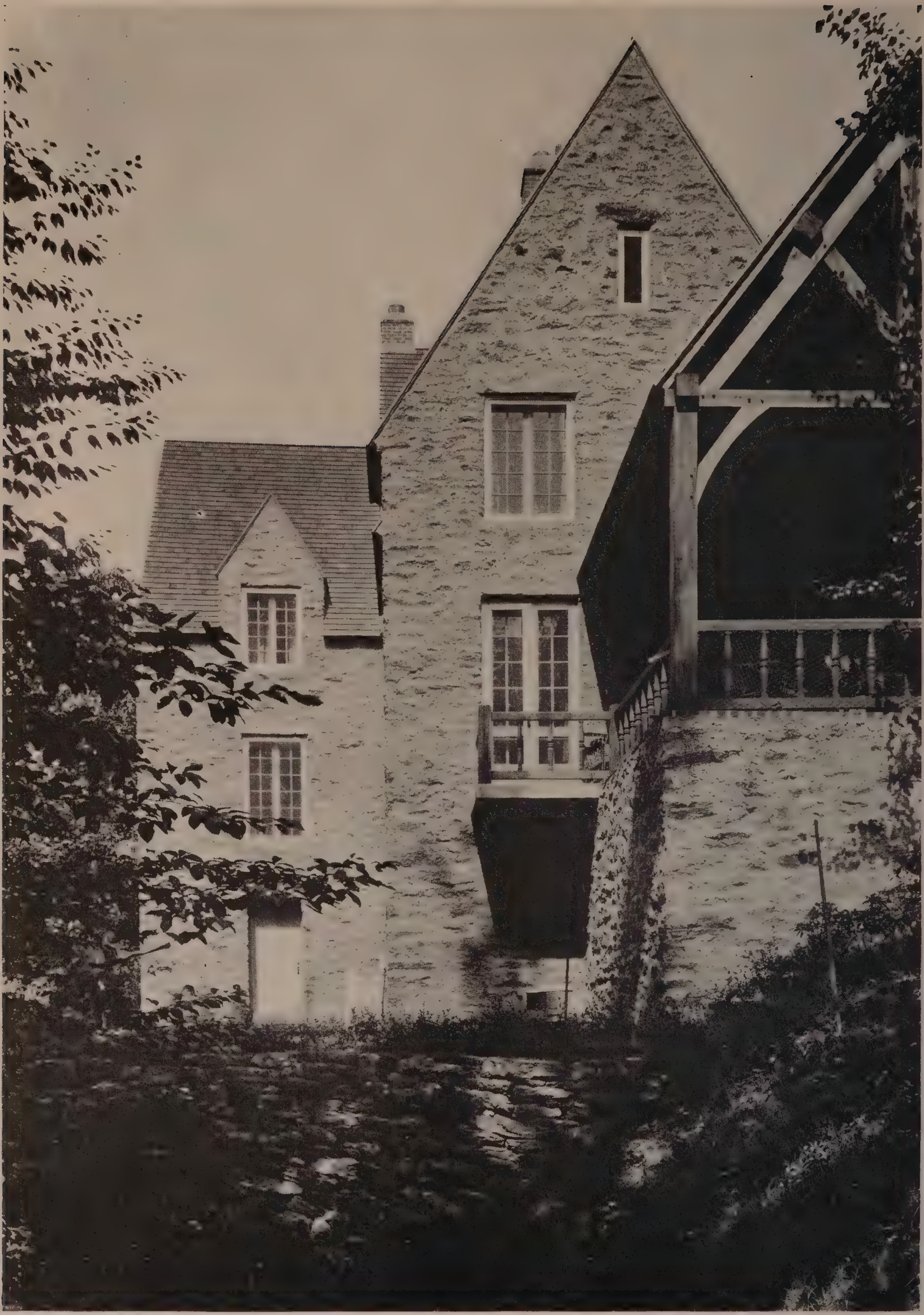
ENTRANCE GATES—S. V. NORTON ESTATE, BLOOMFIELD HILLS, MICHIGAN
Howard Shaw, Architect

That is, of course, an over-statement, but if caricature is the truest portraiture, then such an over-statement is fact. Certainly in even so excellent a lot of material as is illustrated in this number, it is evident the beauty of detail is of a higher quality than the design of the mass, even where that is very good; at least the greater part of the houses are without that unity of composition which used to be considered essential. The Beaux Arts principles as they were once applied to our country houses, gave us a series of rigid and balanced plans reasonably well expressed by elevations which expressed nothing else; and certainly not American domestic life; but to ignore the plan in the elevation is even worse. If one is stupid, the other is foolish.

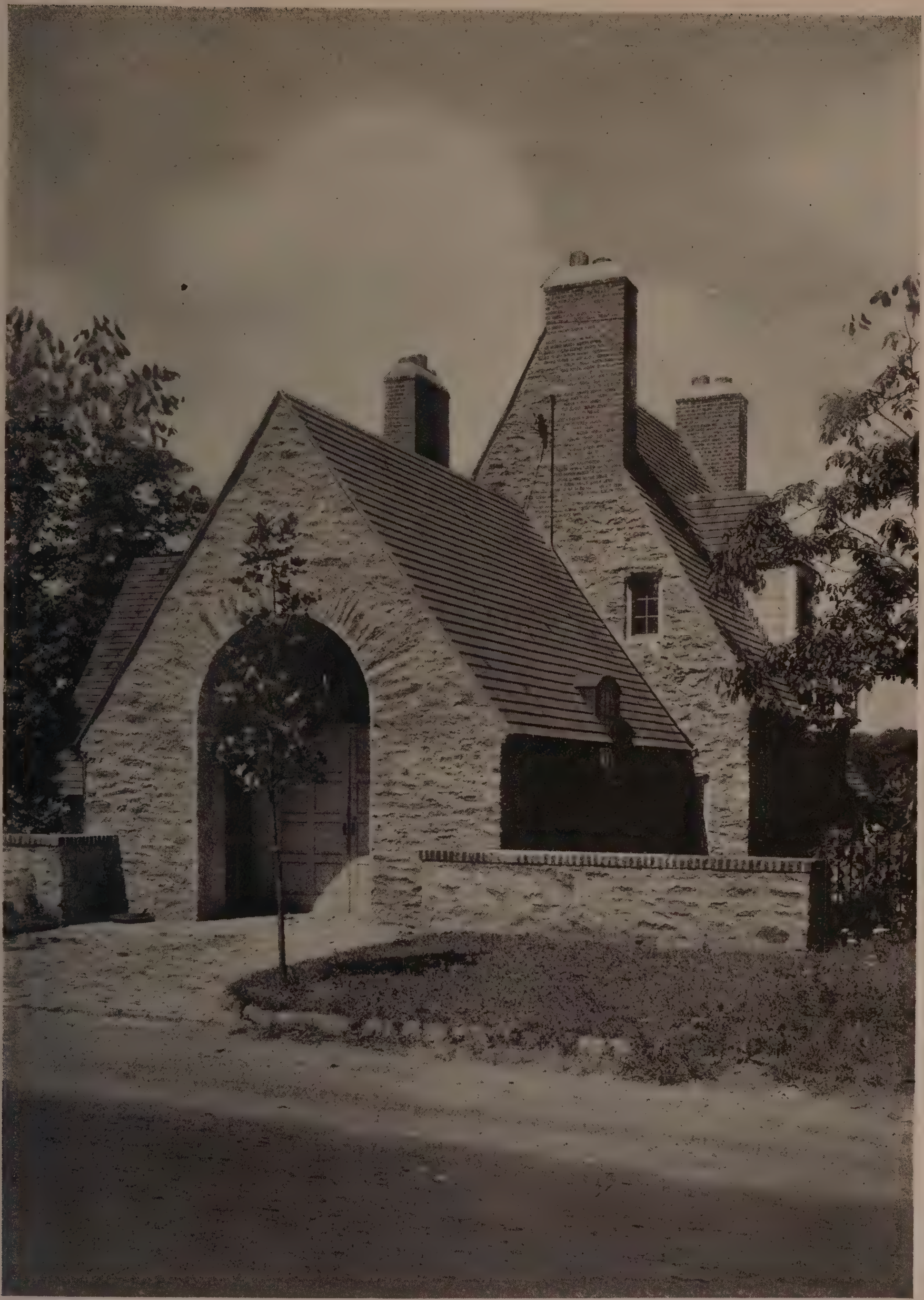
Fundamentally the Beaux Arts teachings are not incompatible with good country house design, but quite the reverse. They insist on easy circulation, on logical plan and on expression of that plan. They do not insist on columns, swags and symmetry, the commonly accepted attributes of the Beaux Arts School; nor do we suppose the bad taste prevalent in French design today is necessarily inseparable from these qualities. But where our American designers seek for the picturesque and charming at the expense of the other vital elements, can we believe them to be of better taste than those they deride? The future of American architecture lies neither in one path nor the other; intelligent selection we must have, but not direct copying. For a while we seemed to have passed beyond that stage, but it appears we have become too accurate in our memories of precedent, even if drawn from so great a variety of sources. Heterodox we may be, but at least let us be less orthodox in our heterodoxy.

We had fully determined when this article began not to mention any house by name, for we find something admirable in each of those selected, and to single out a few for comment seems hardly fair to other and perhaps better houses; but in order to drive home our point more clearly, you are asked to compare the house of Mr. H. F. C. Stikeman, at Chestnut Hill, Pennsylvania, by Mellor, Meigs and Howe, the John L. Saltonstall house at Topsfield, Massachusetts, by Richardson, Barott and Richardson, and the house of Mr. H. H. Everist at Sioux City, Iowa, by William L. Steele. Here are three houses about as far apart

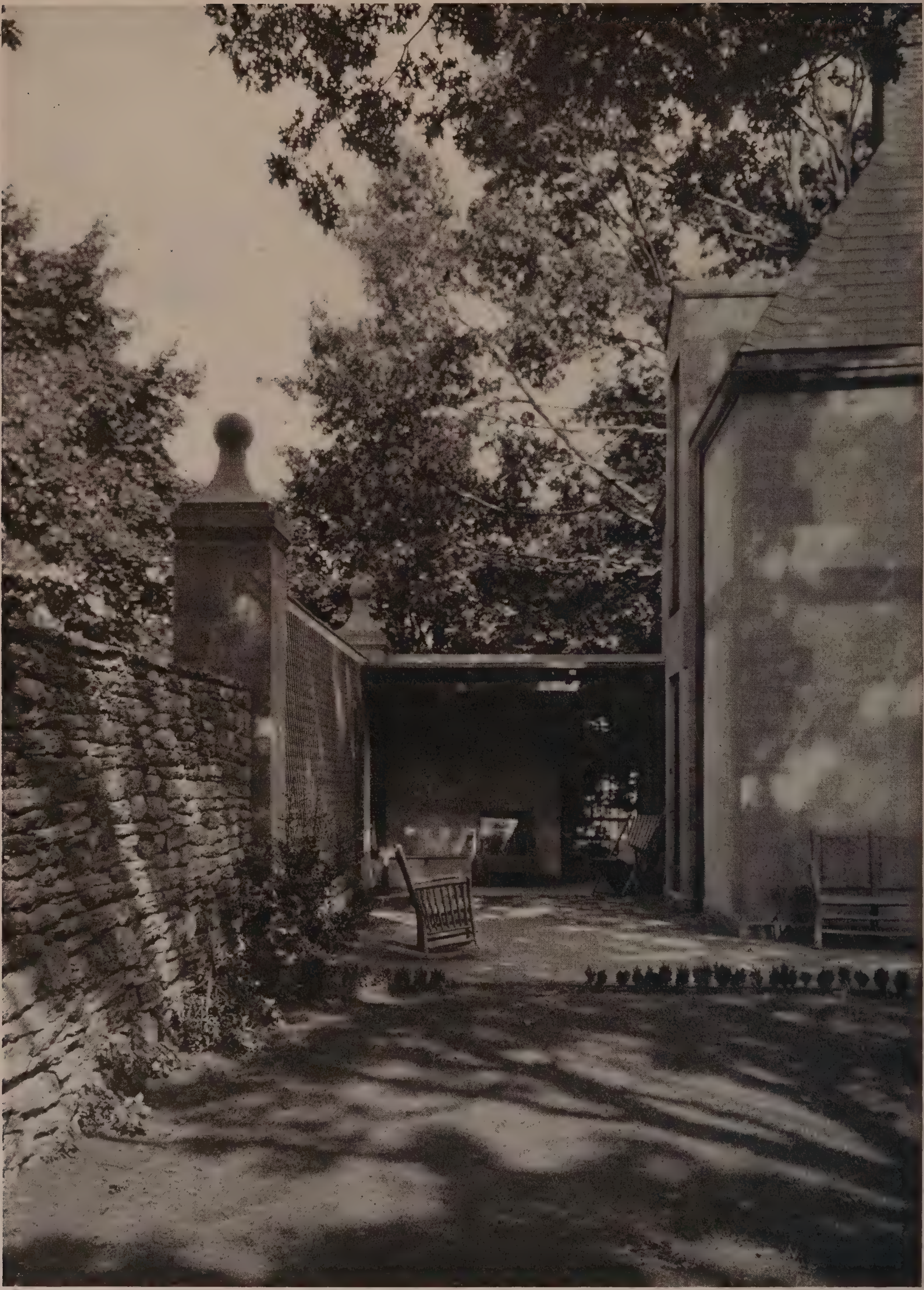
(Text continued on page 436)



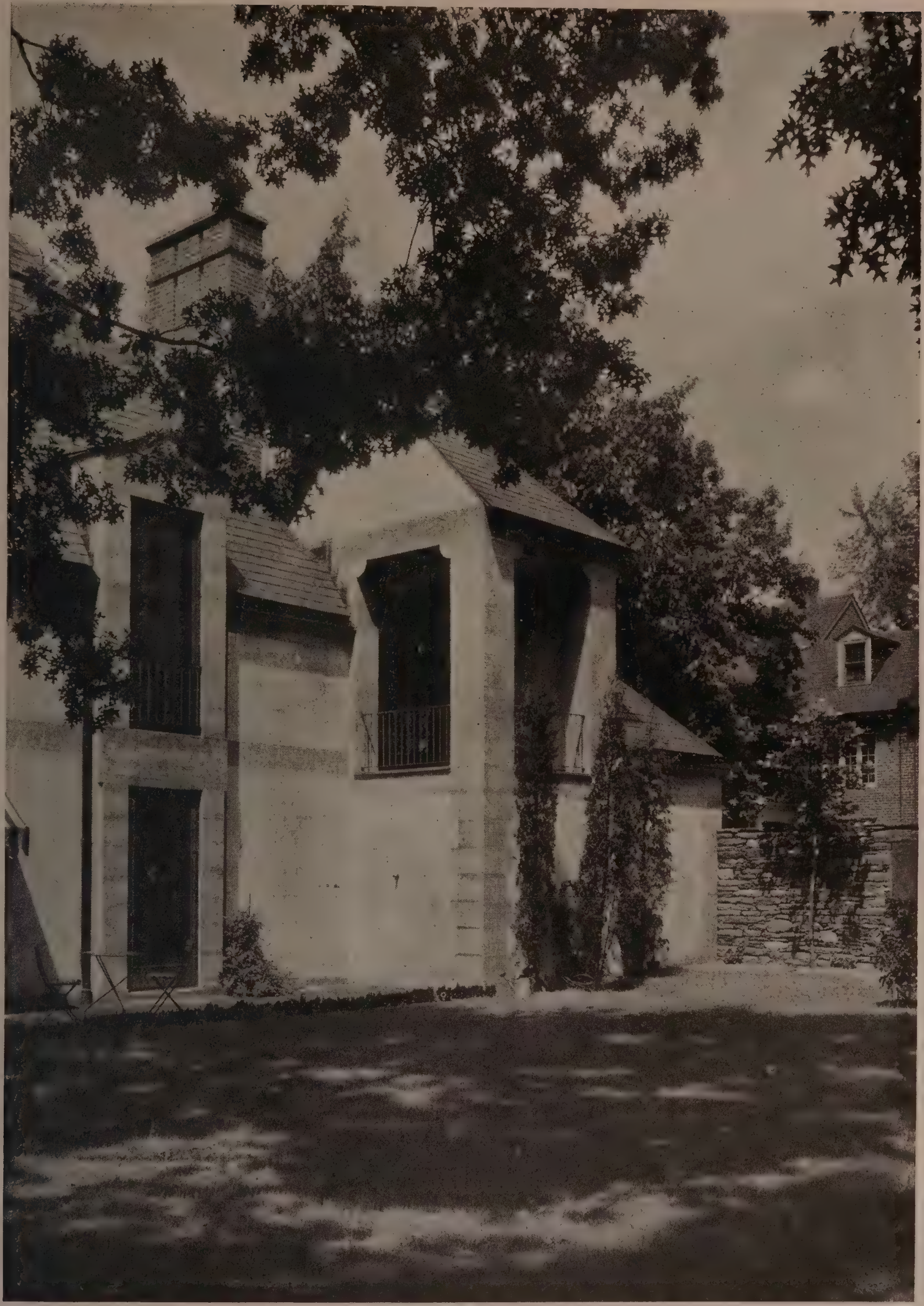
House and Porch from below
RESIDENCE OF H. F. C. STIKEMAN, ESQ., CHESTNUT HILL, PENNSYLVANIA
Mellor, Meigs & Howe, Architects



Garage and Service Entrance
RESIDENCE OF H. F. C. STIKEMAN, ESQ., CHESTNUT HILL, PENNSYLVANIA
Mellor, Meigs & Howe, Architects



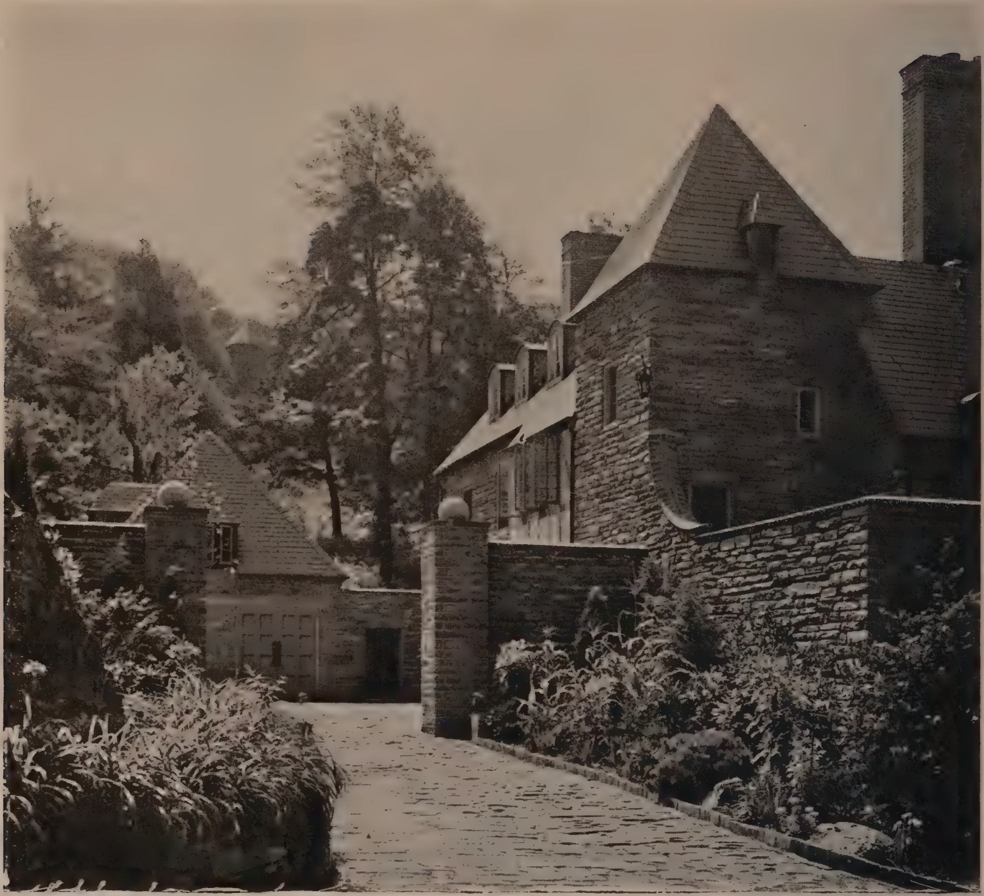
Enclosed Terrace
RESIDENCE OF MRS. JOSEPH C. FRALEY, CHESTNUT HILL, PENNSYLVANIA
Mellor, Meigs & Howe, Architects



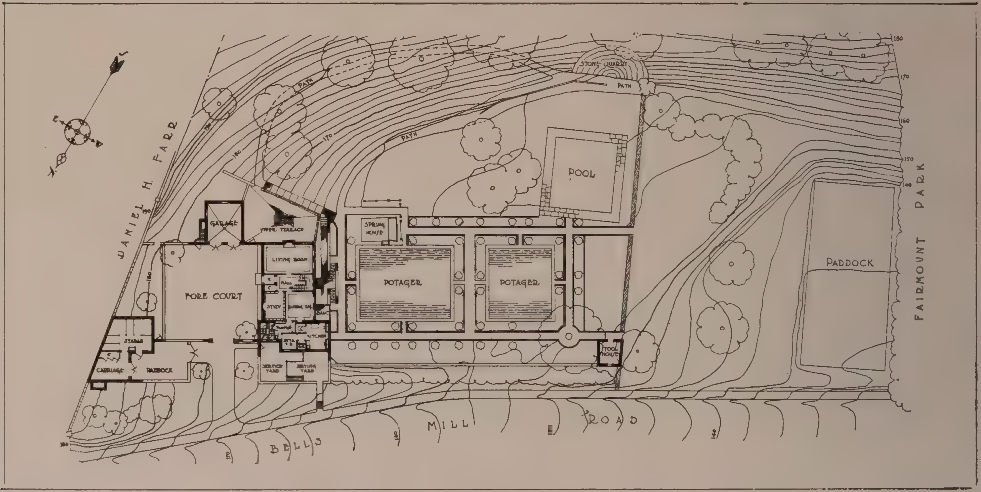
Loggia

RESIDENCE OF MRS. JOSEPH C. FRALEY, CHESTNUT HILL, PENNSYLVANIA

Mellor, Meigs & Howe, Architects



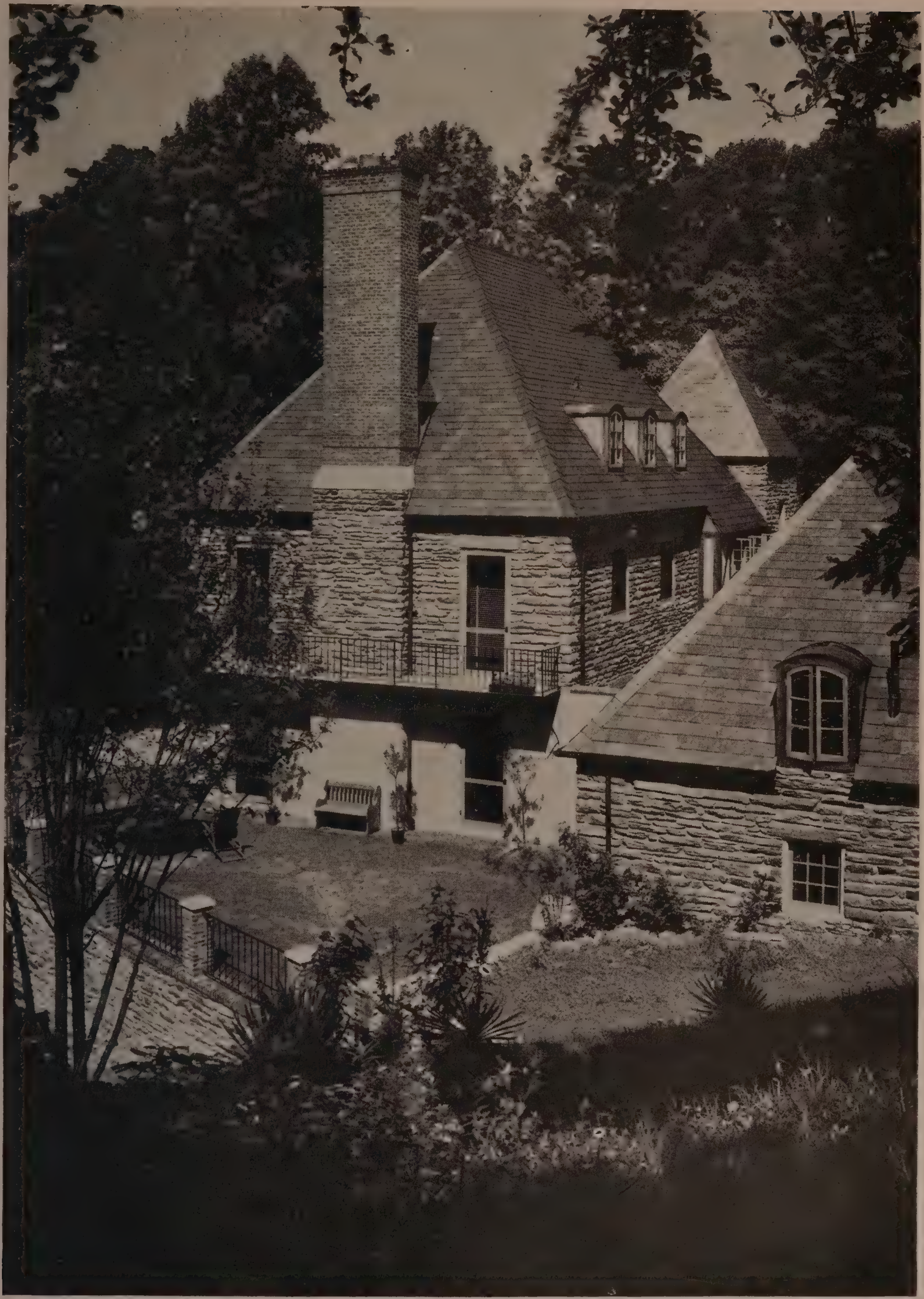
Entrance Court



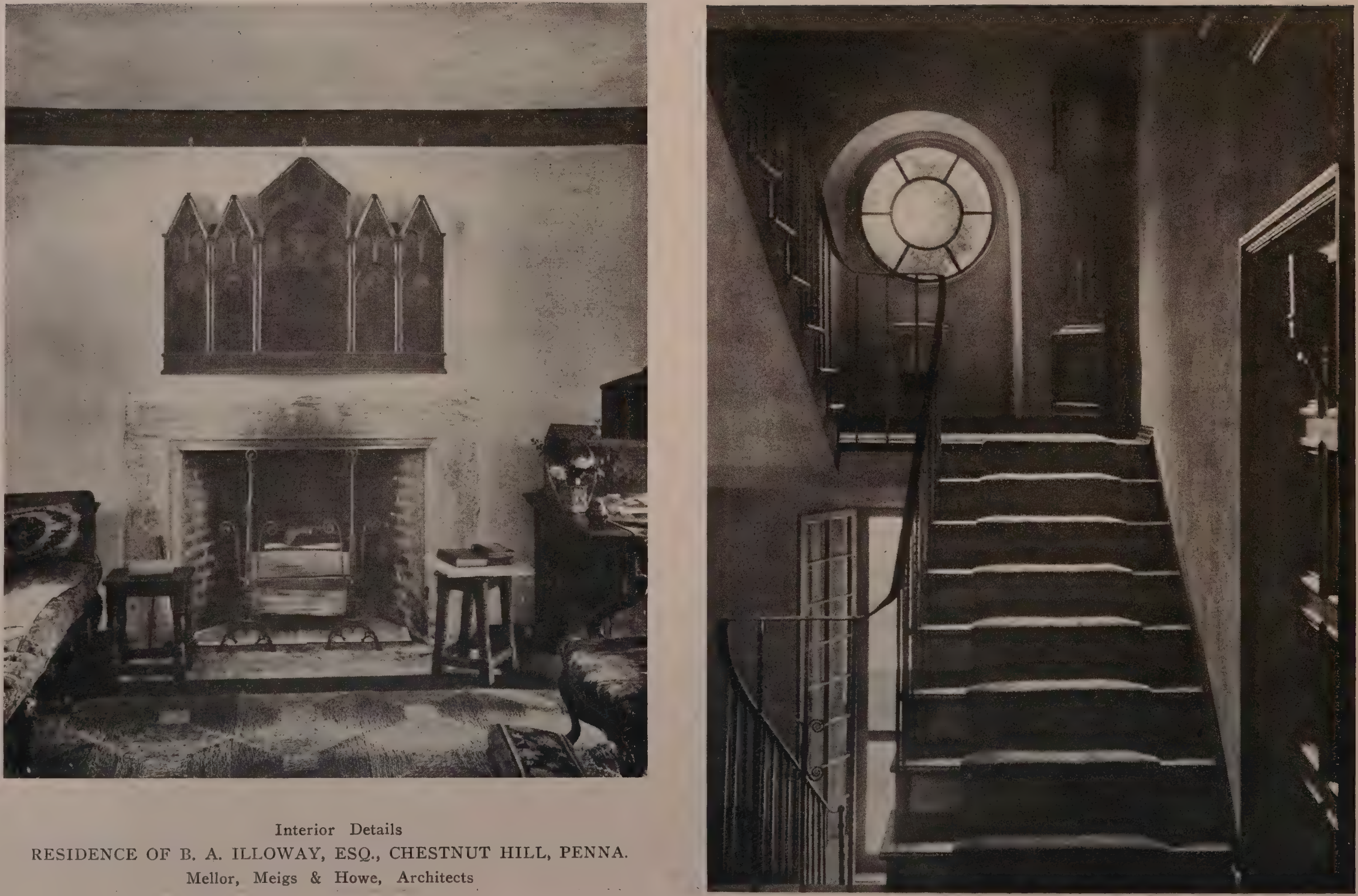
Floor Plan

RESIDENCE OF B. A. ILLOWAY, ESQ., CHESTNUT HILL, PENNSYLVANIA

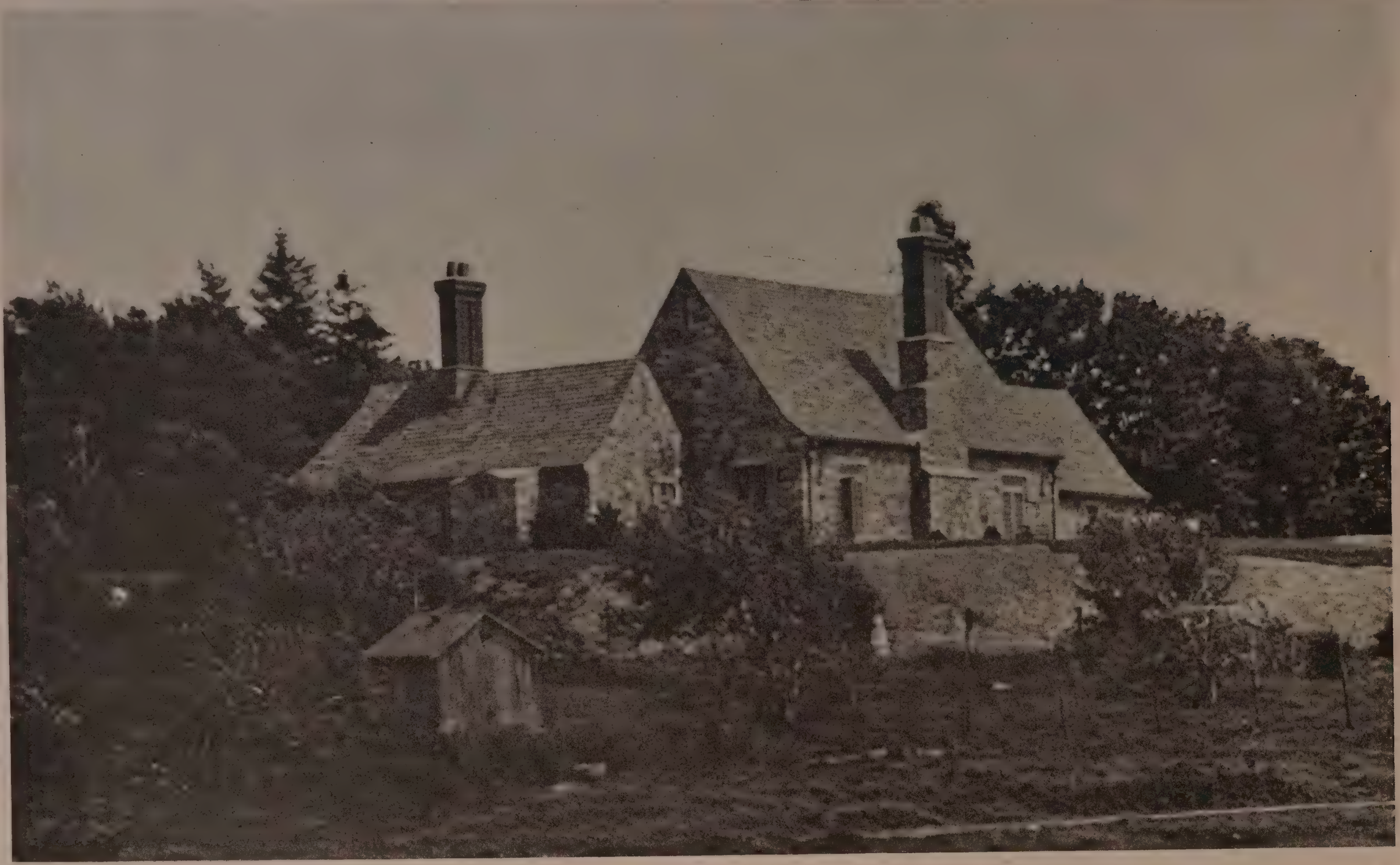
Mellor, Meigs & Howe, Architects



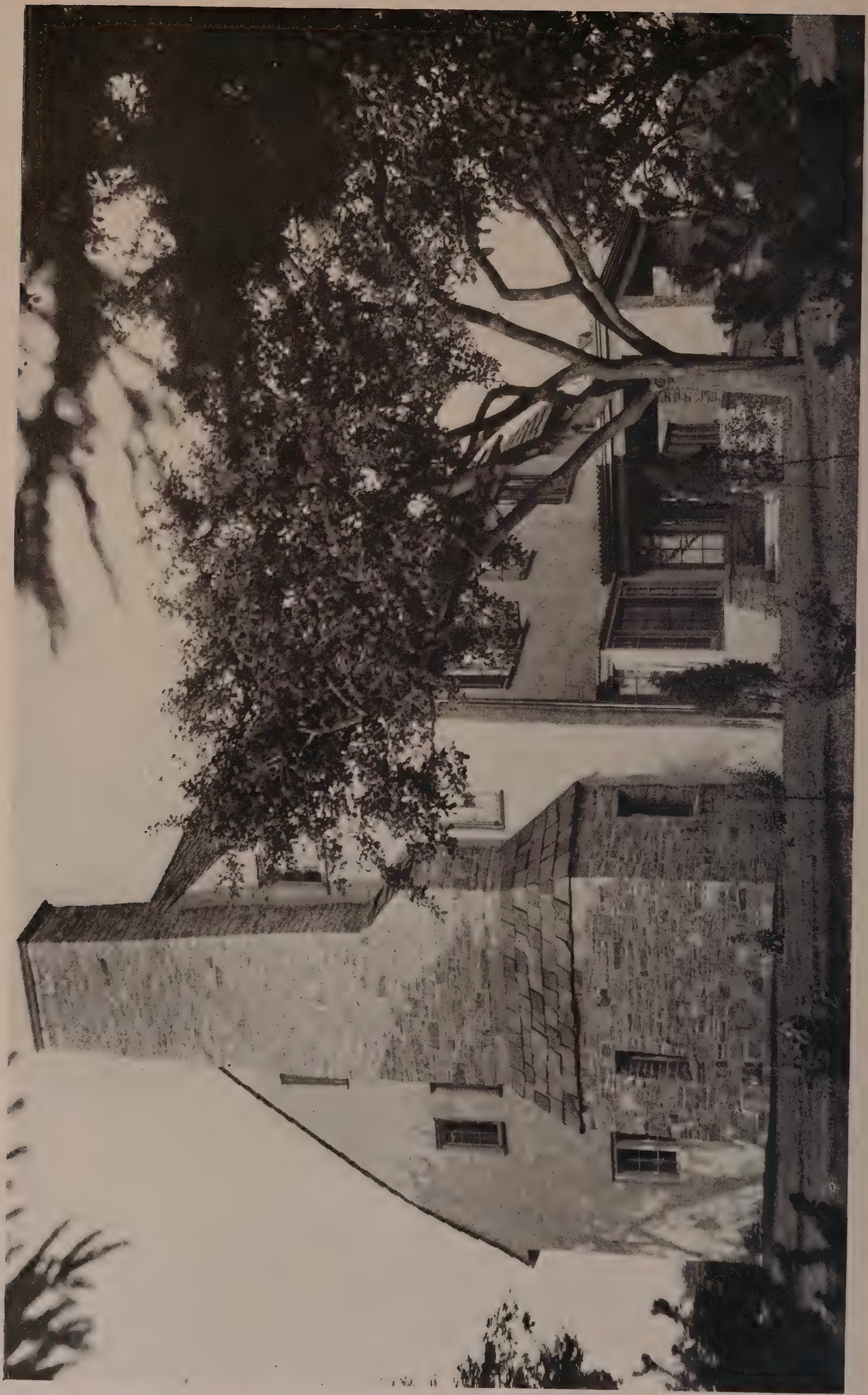
South East Front
RESIDENCE OF B. A. ILLOWAY, ESQ., CHESTNUT HILL, PENNSYLVANIA
Mellor, Meigs & Howe, Architects



Interior Details
RESIDENCE OF B. A. ILLOWAY, ESQ., CHESTNUT HILL, PENNA.
Mellor, Meigs & Howe, Architects

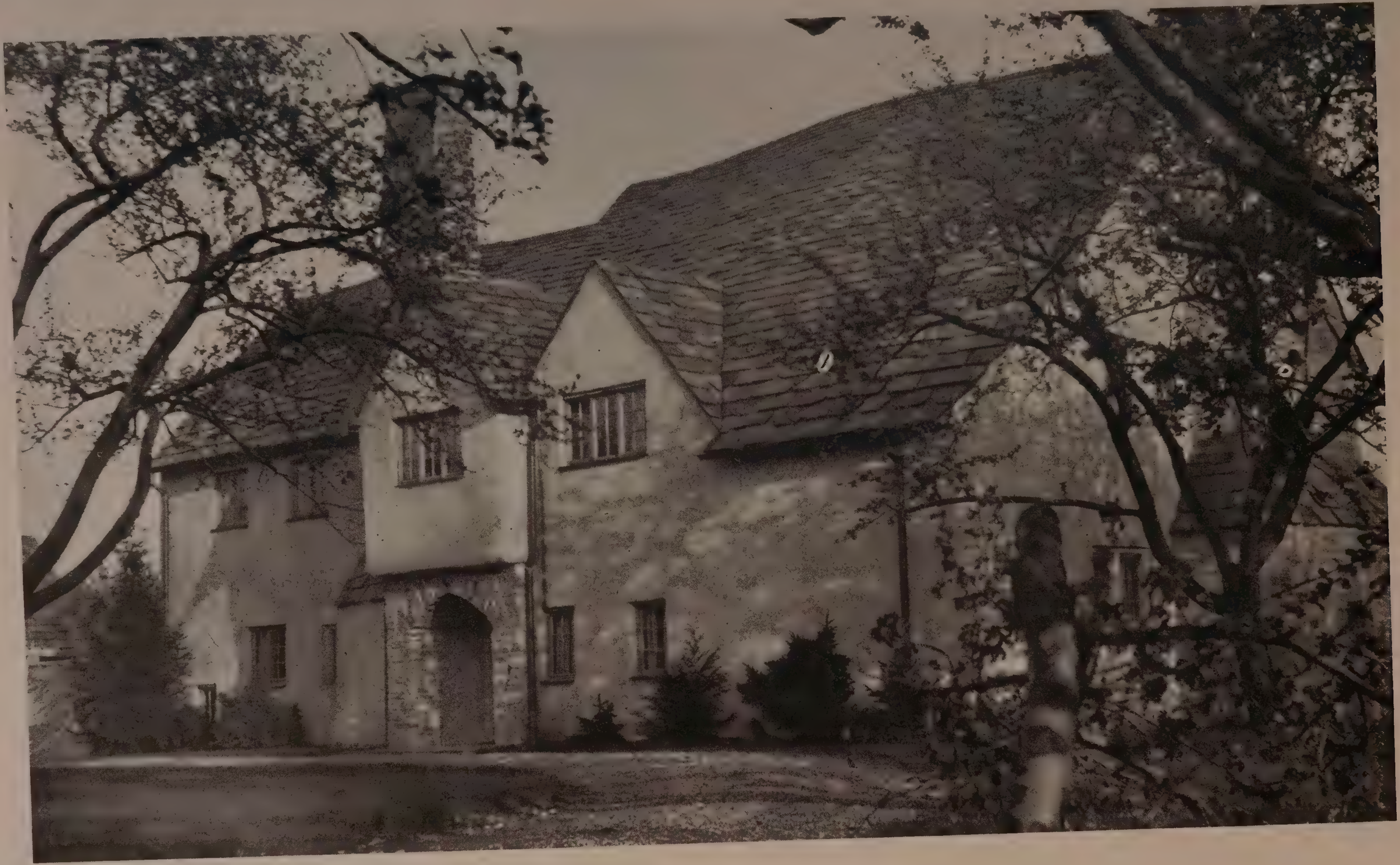


RESIDENCE OF ROY H. BEATTIE, ESQ., TIVERTON, RHODE ISLAND
Parker M. Hooper and Wm. Edgar Moran, Architects

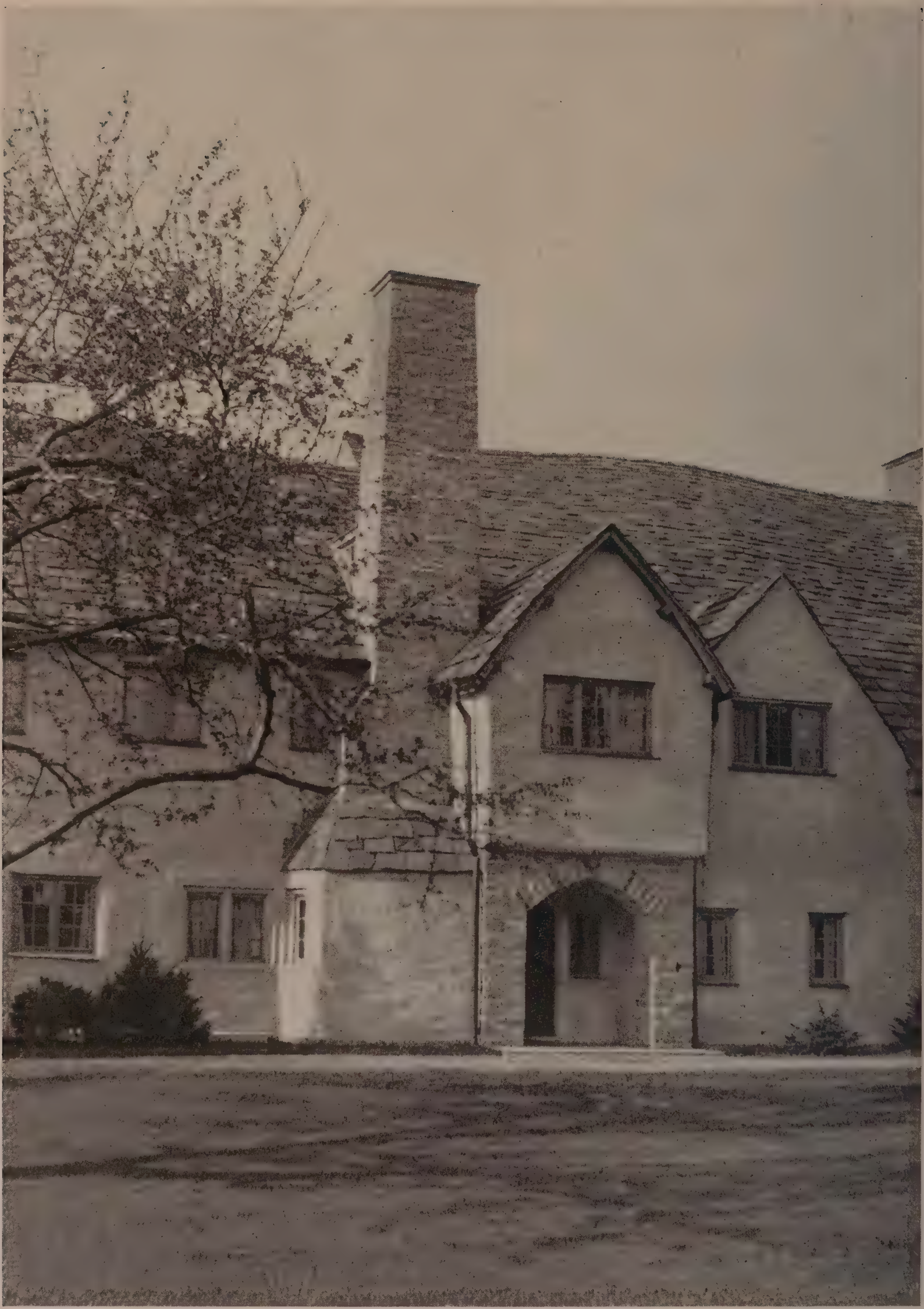


COUNTRY HOUSE FOR S. V. NORTON, ESQ., BLOOMFIELD HILLS, MICHIGAN

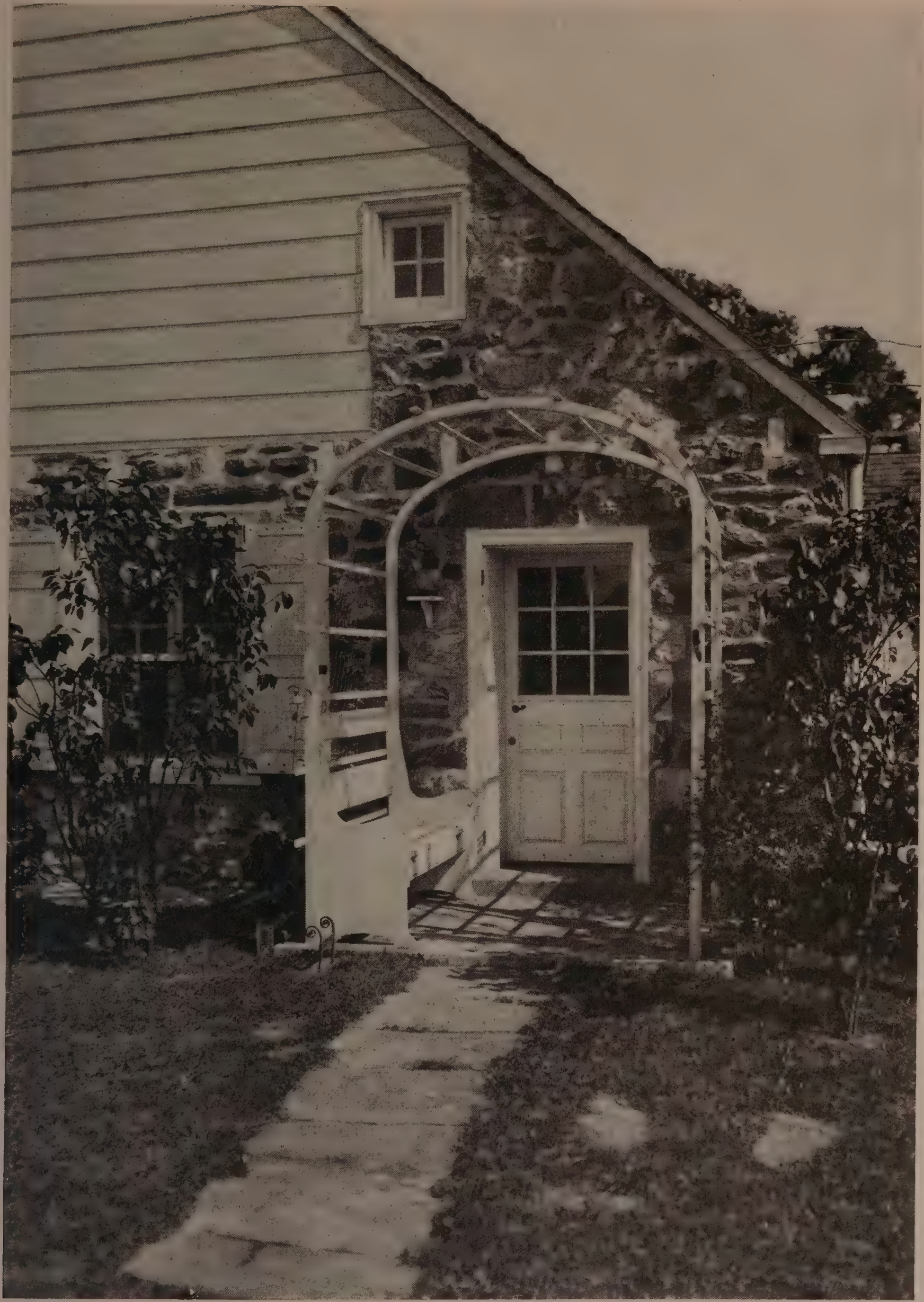
Howard Shaw, Architect



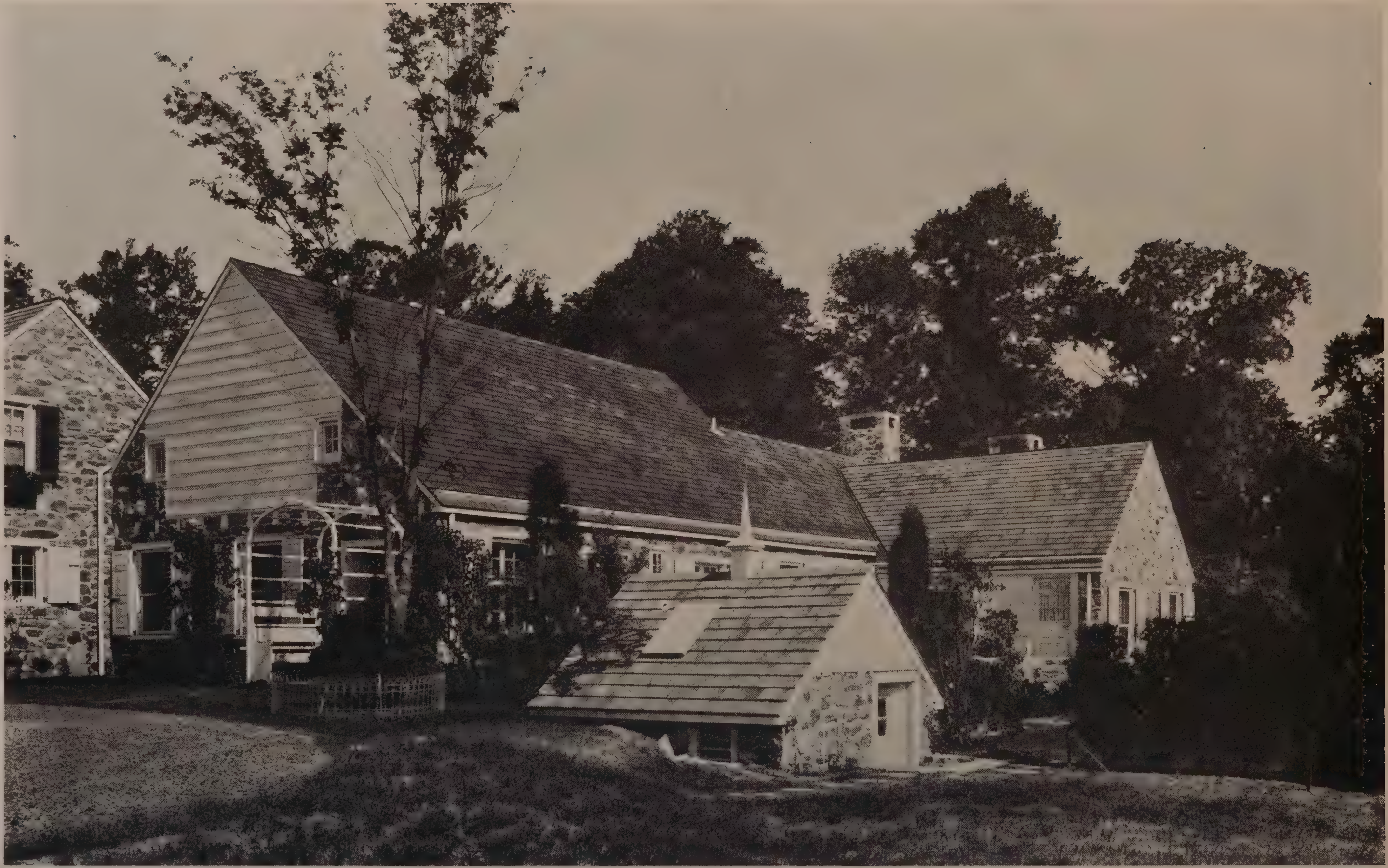
COUNTRY HOUSE FOR S. V. NORTON, ESQ., BLOOMFIELD HILLS, MICHIGAN
Howard Shaw, Architect



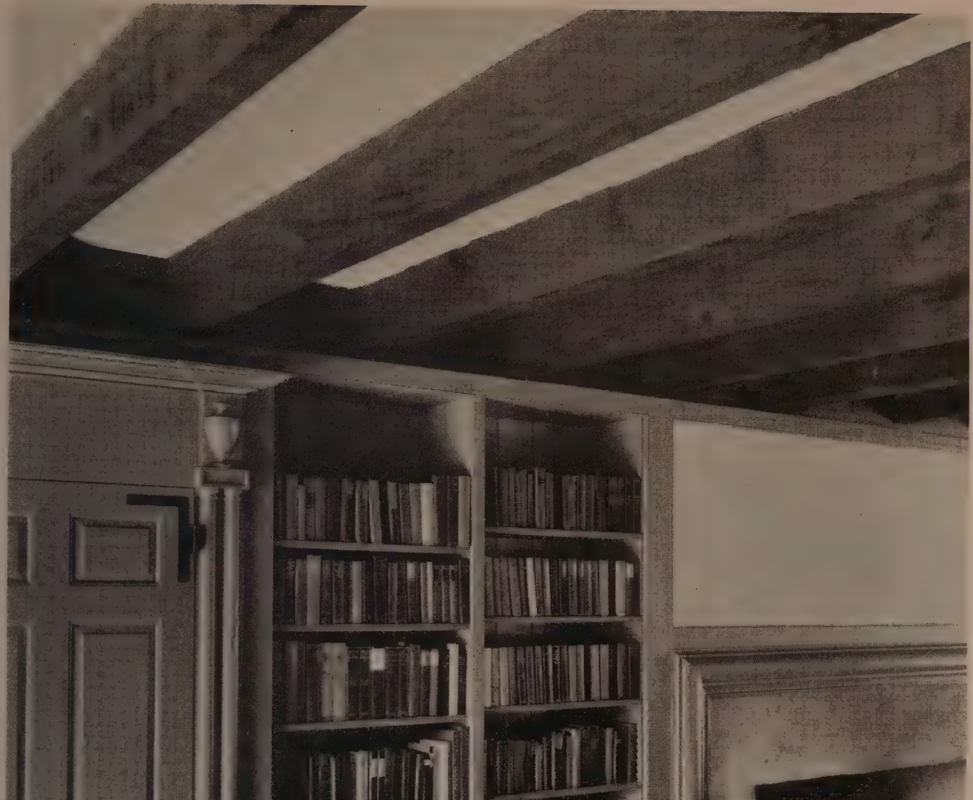
COUNTRY HOUSE FOR S. V. NORTON, ESQ., BLOOMFIELD HILLS, MICHIGAN
Howard Shaw, Architect



RESIDENCE OF CHARLES P. STOKES, ESQ., NARBERTH, PENNSYLVANIA
R. Brognard Okie, Architect



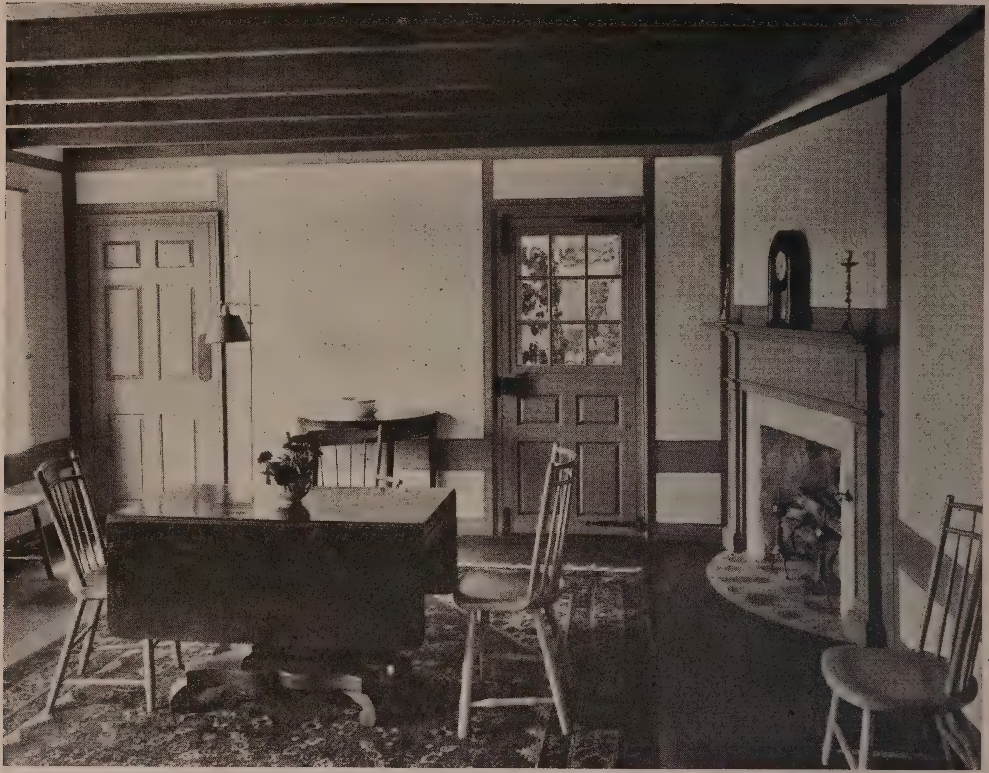
RESIDENCE OF CHARLES P. STOKES, ESQ., NARBERTH, PENNSYLVANIA
R. Brognard Okie, Architect



RESIDENCE OF CHARLES P. STOKES, ESQ., NARBERTH, PENNSYLVANIA
R. Brognard Okie, Architect

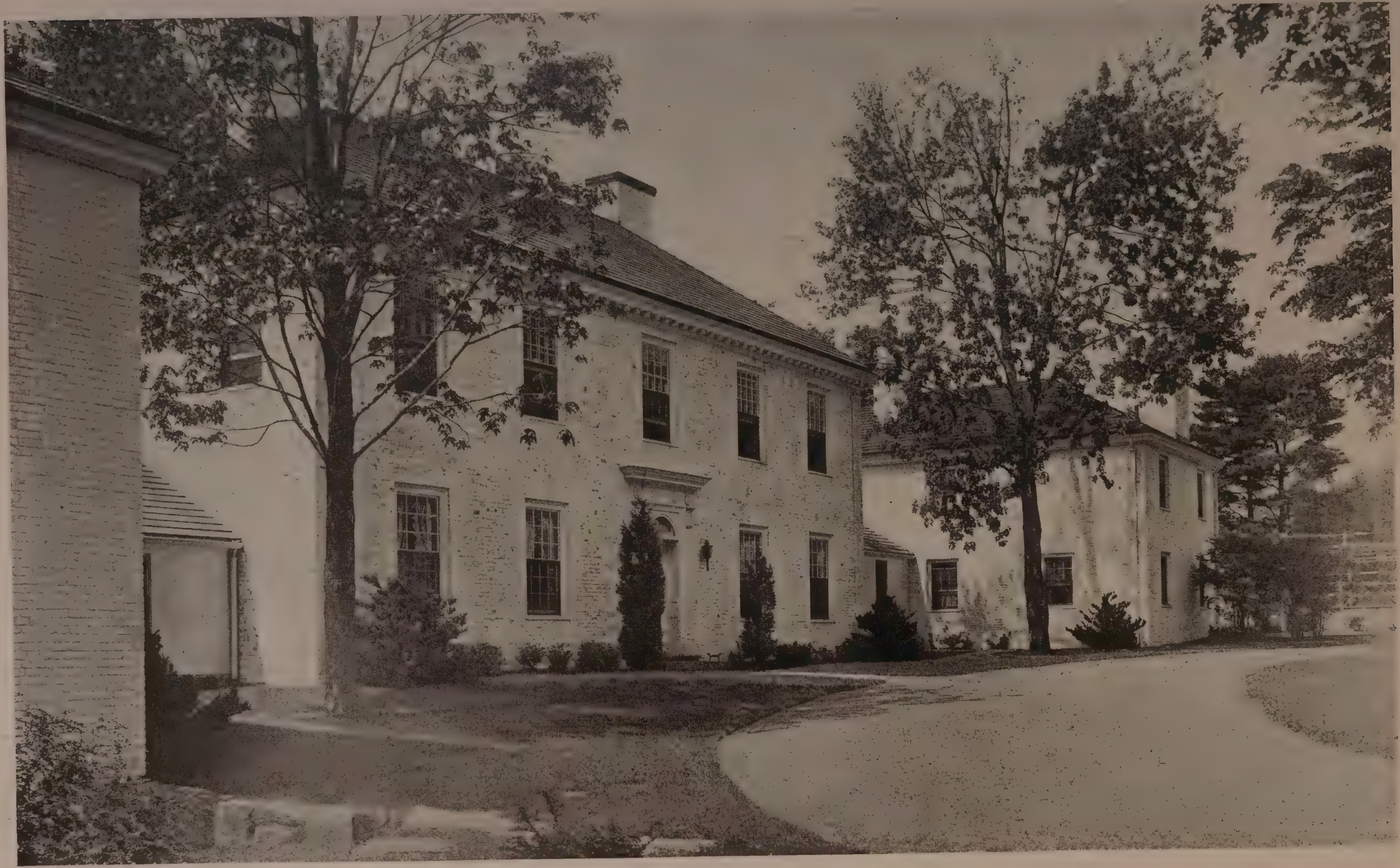
in their stylistic elements as is conceivable even in America of today; the first of English cottage genesis, the second of American Colonial and the third of what Mr. Hugh Garden called "the style of the western plains." They are all alike in possessing the unity of composition essential to sound design, in appearing precisely what they are, American country houses, and in being developments from precedent and not literal transcriptions. Two of them possess charm, at least for us, and the third, the style of the western plains, may possess it to those who can sympathize with that particular form of architecture. We are able to perceive and admire the power and force of the design, its honest expression of purpose and plan, without in the least being stirred by it. Ours is an admiration without affection, yet in this house as in the others, there is an honesty of purpose, a proper subordination of its parts to the whole that place it in our opinion far above the "pretty pretty" type so common here in the east, so easy to do and so little worth doing.

For the Salstonstall house we have no reservation; the stark simplicity of the design might, in less capable hands, have become sheer stupidity. There, the perfect relation between the central block and the subordinate wings; the excellent fenestration and the beautiful detail have produced not only a skilful piece of design, but a house of genuine charm without affectation. Quite likely the designers knew before the house was built it would have this most elusive quality,

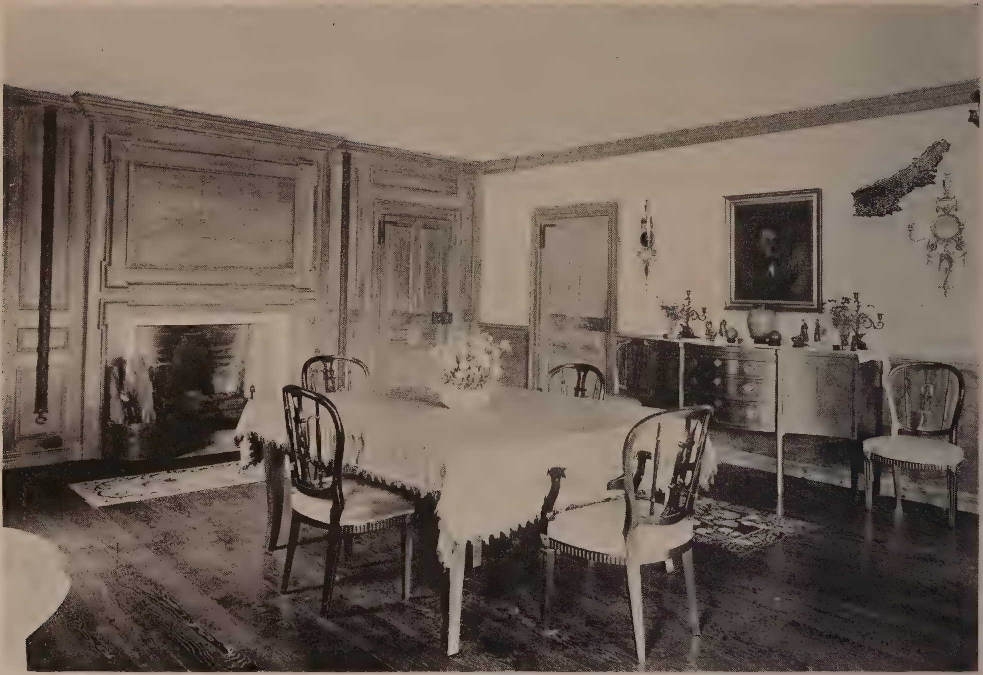


Dining Room
RESIDENCE OF CHARLES P. STOKES, ESQ., NARBERTH, PENNSYLVANIA
R. Brognard Okie, Architect

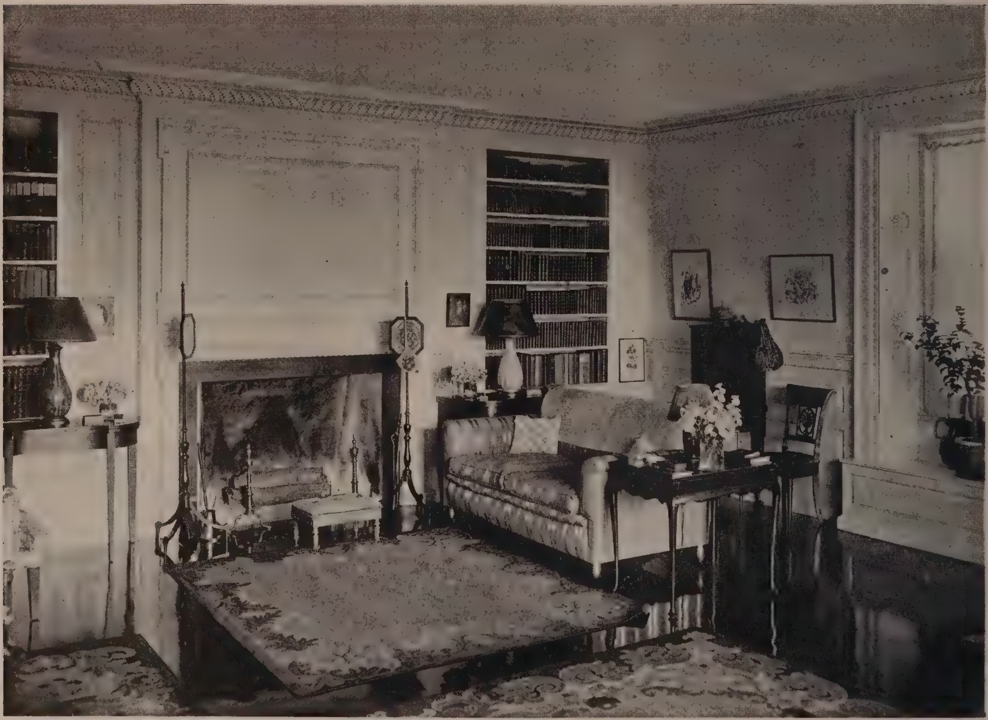
(*Text continued on page* 447)



RESIDENCE OF JOHN L. SALTONSTALL, ESQ., TOPSFIELD, MASSACHUSETTS
Richardson, Barott & Richardson, Architects



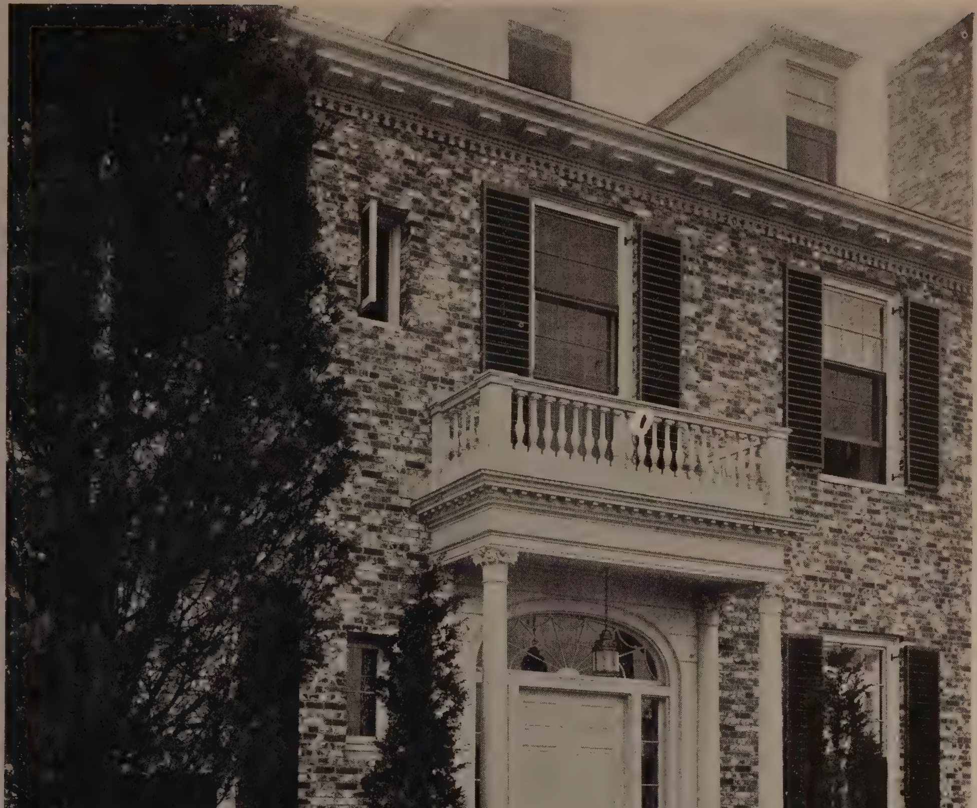
Dining Room



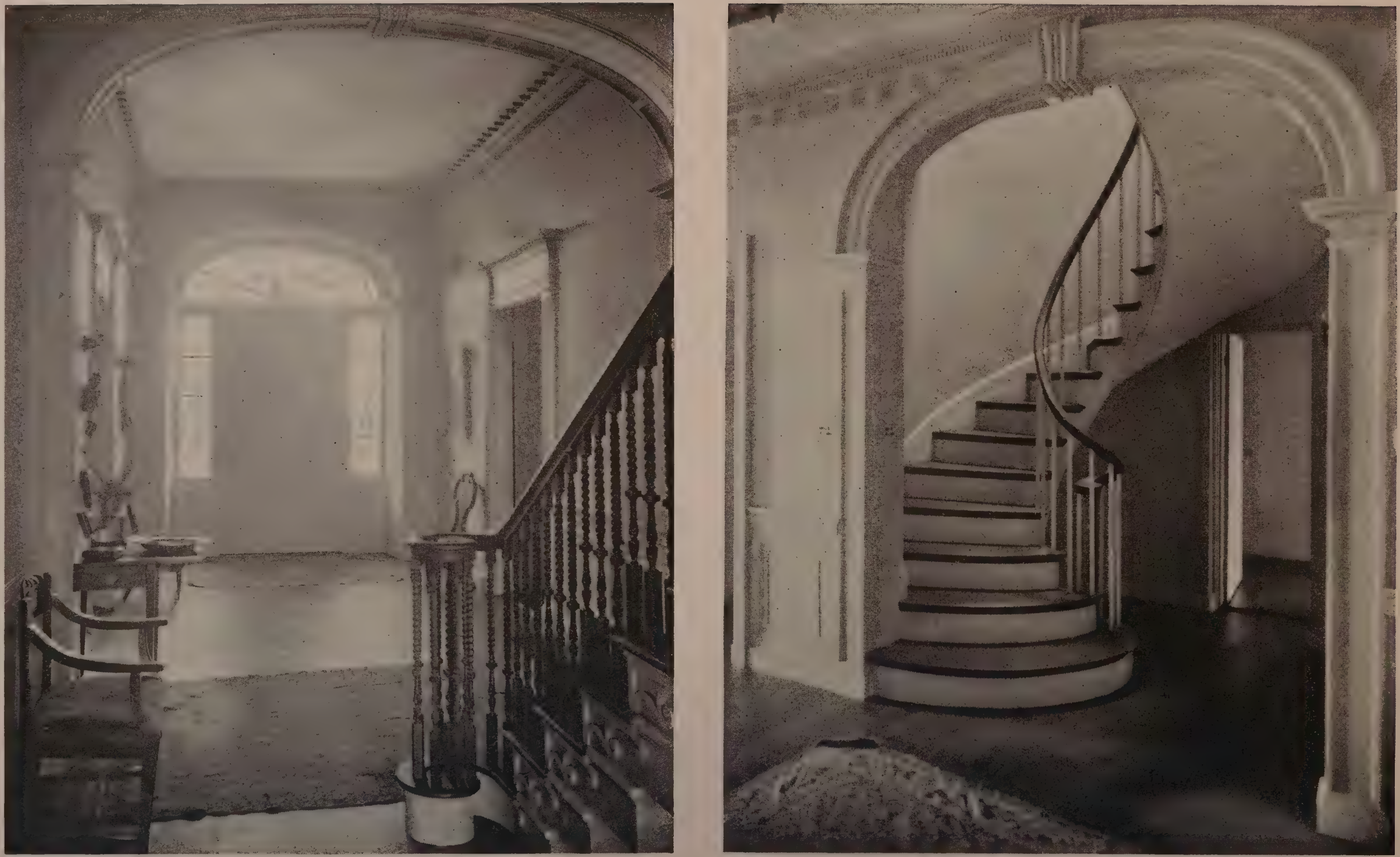
Living Room

RESIDENCE OF JOHN L. SALTONSTALL, ESQ., TOPSFIELD, MASSACHUSETTS

Richardson, Barott & Richardson, Architects



Entrance Detail
RESIDENCE OF ELLERY SEDGWICK, ESQ., BEVERLY, MASSACHUSETTS
Richardson, Barott & Richardson, Architects

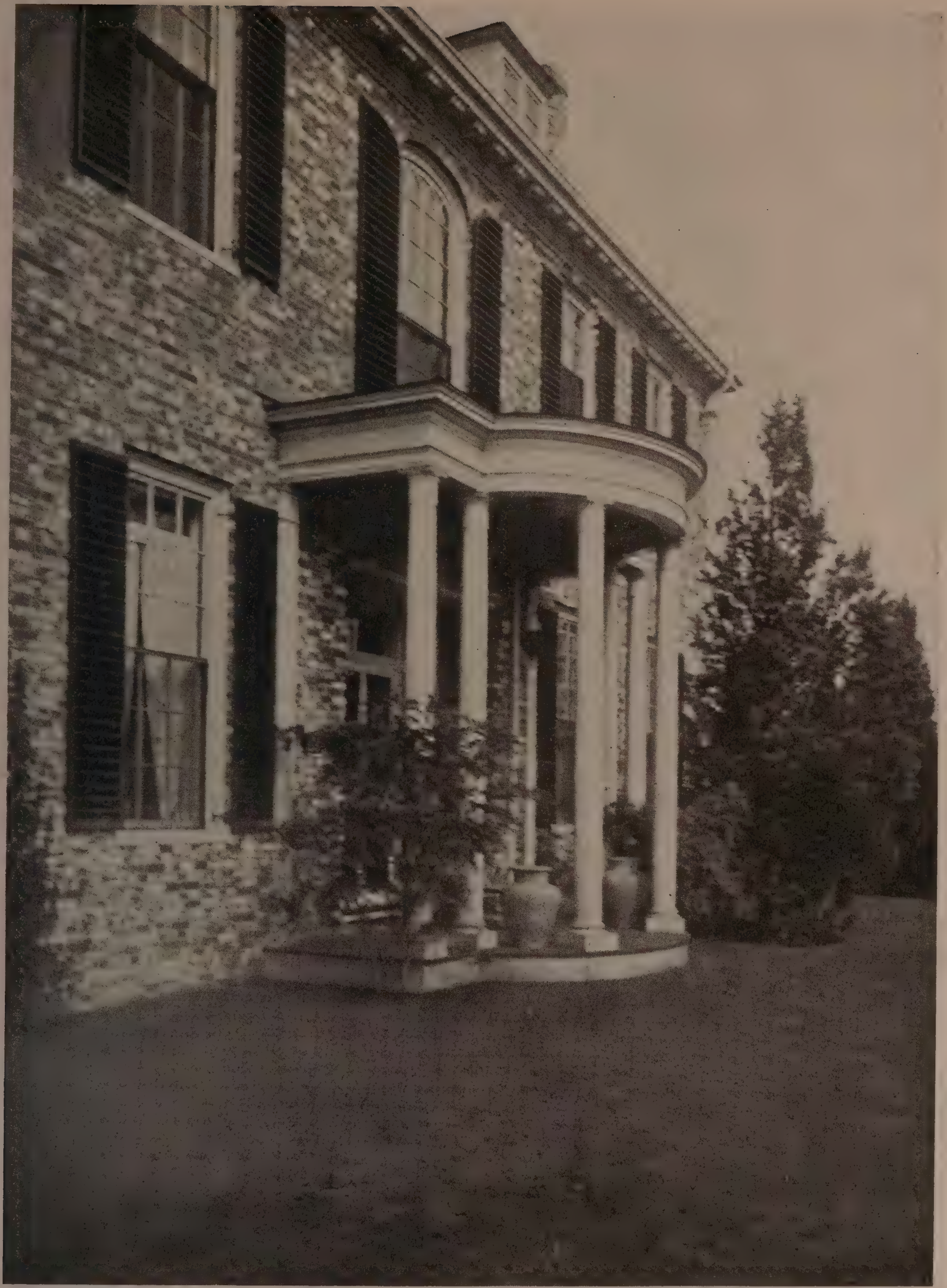


Lower Hall

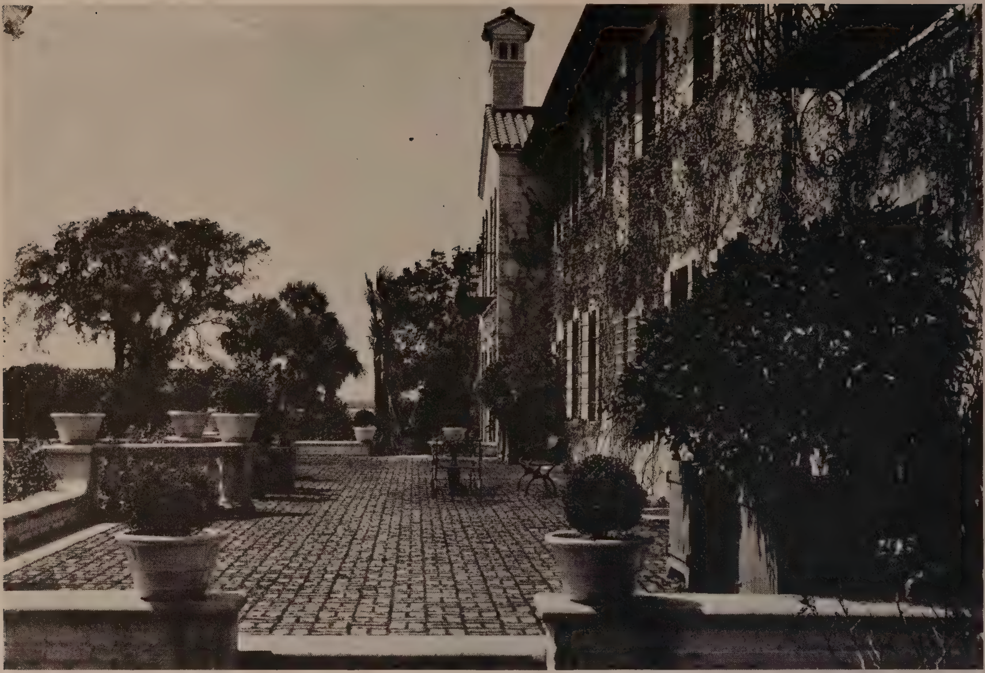
Upstairs Hall

RESIDENCE OF ELLERY SEDGWICK, ESQ., BEVERLY, MASSACHUSETTS

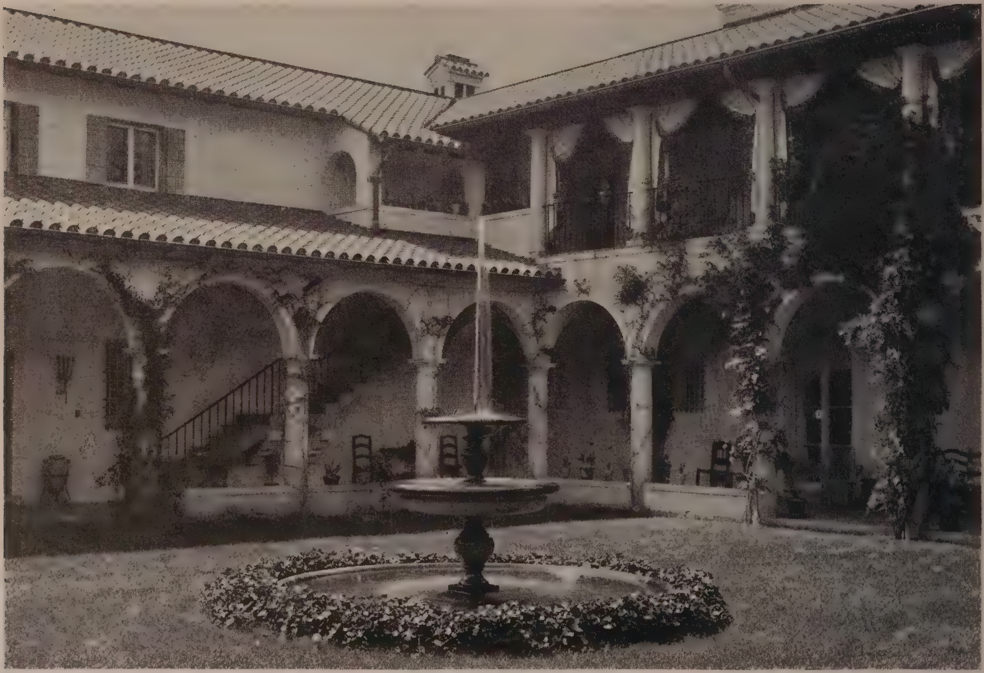
Richardson, Barott & Richardson, Architects



South Porch Detail
RESIDENCE OF ELLERY SEDGWICK, ESQ., BEVERLY, MASSACHUSETTS
Richardson, Barott & Richardson, Architects



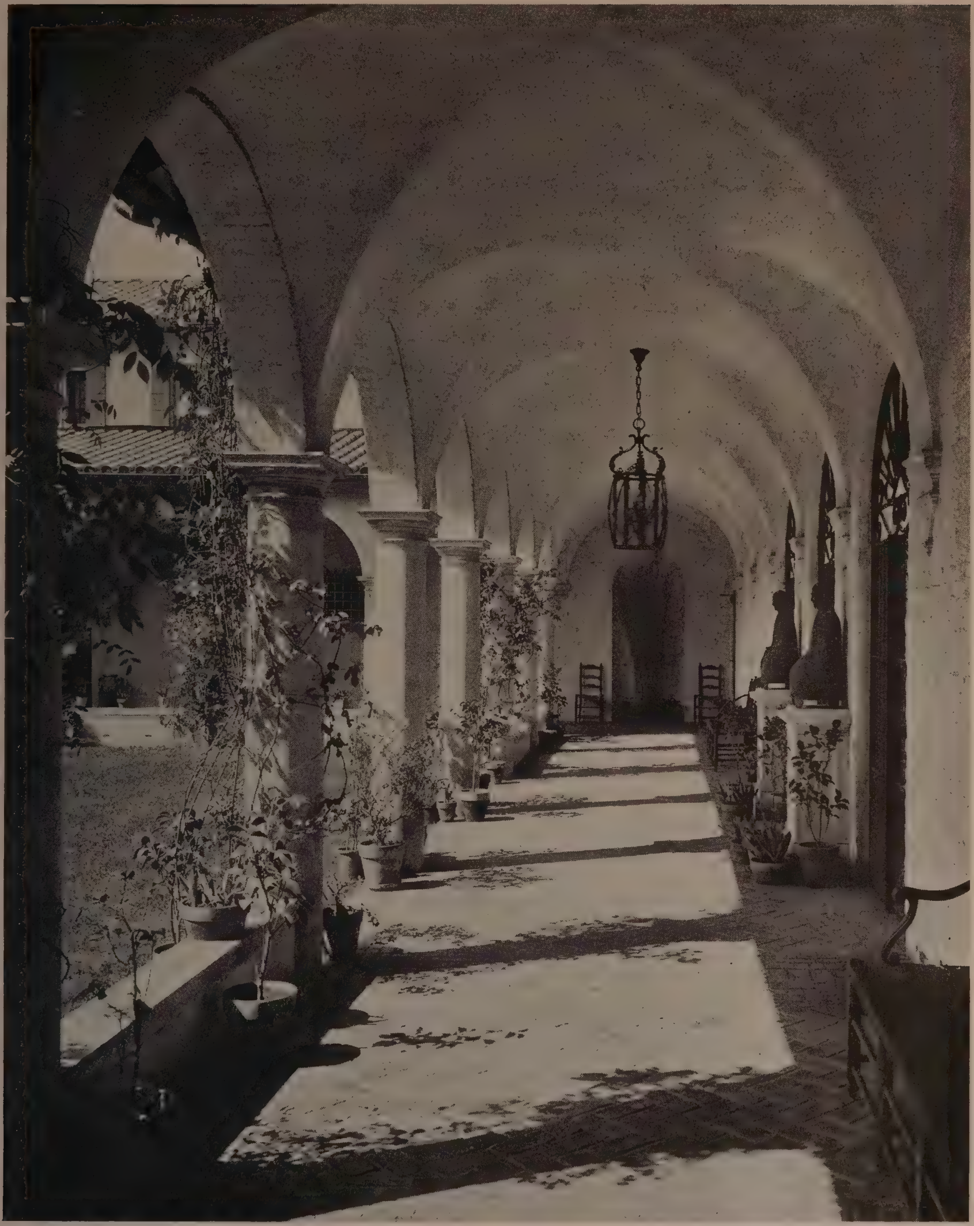
Garden Elevation



Court

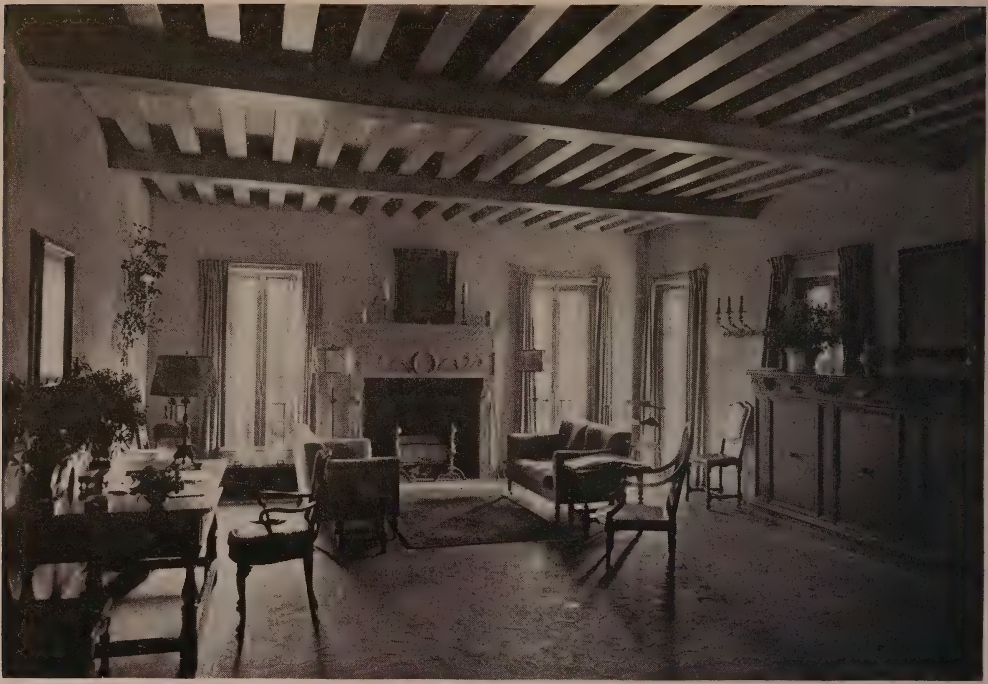
RESIDENCE OF R. T. CRANE, JR., ESQ., JEKYL ISLAND, GEORGIA

David Adler and Robert Work, Architects

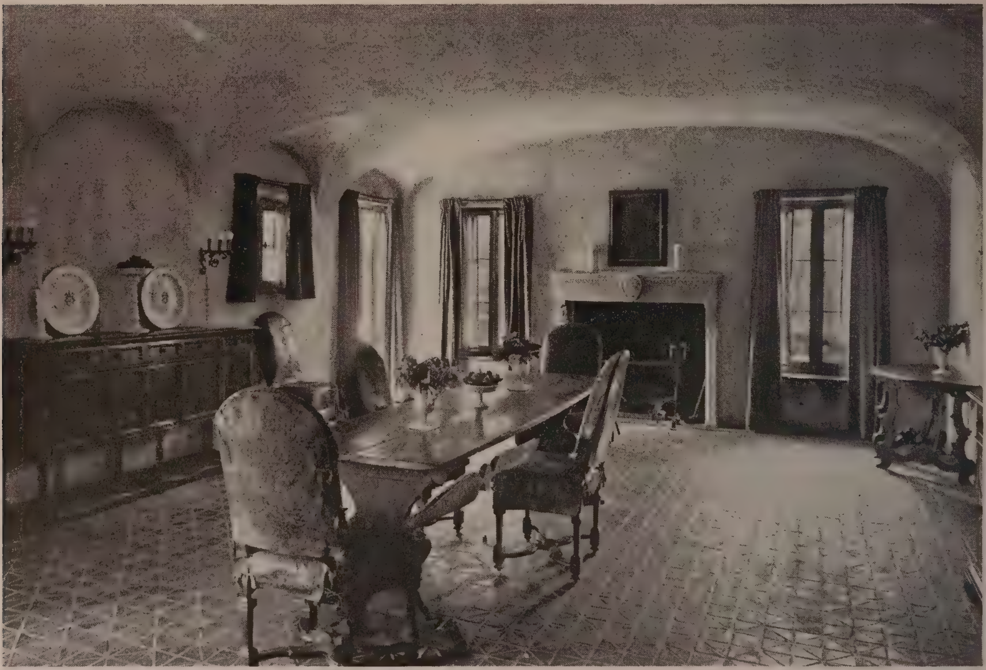


Loggia

RESIDENCE OF R. T. CRANE, JR., ESQ., JEKYL ISLAND, GEORGIA
David Adler and Robert Work, Architects



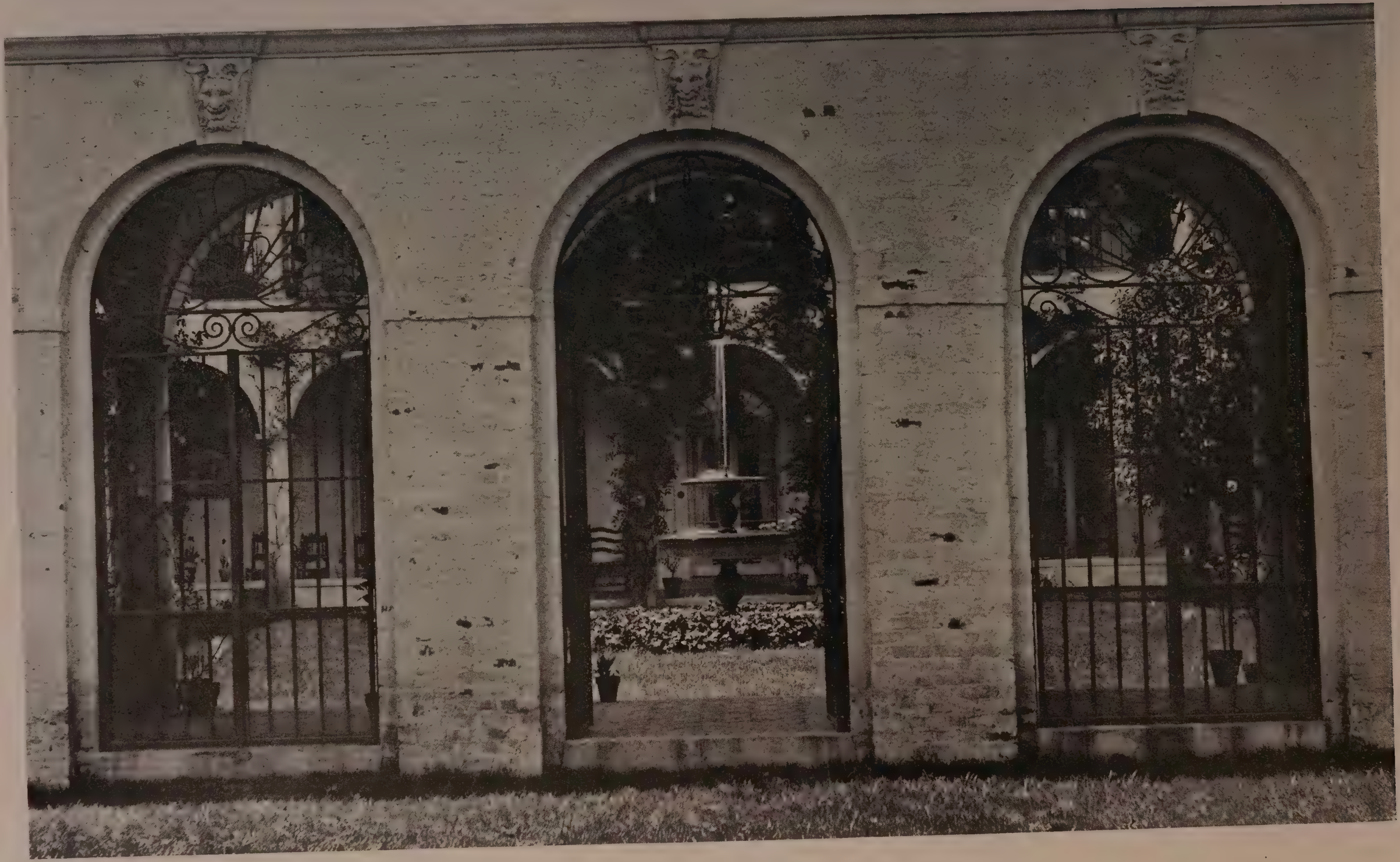
Library



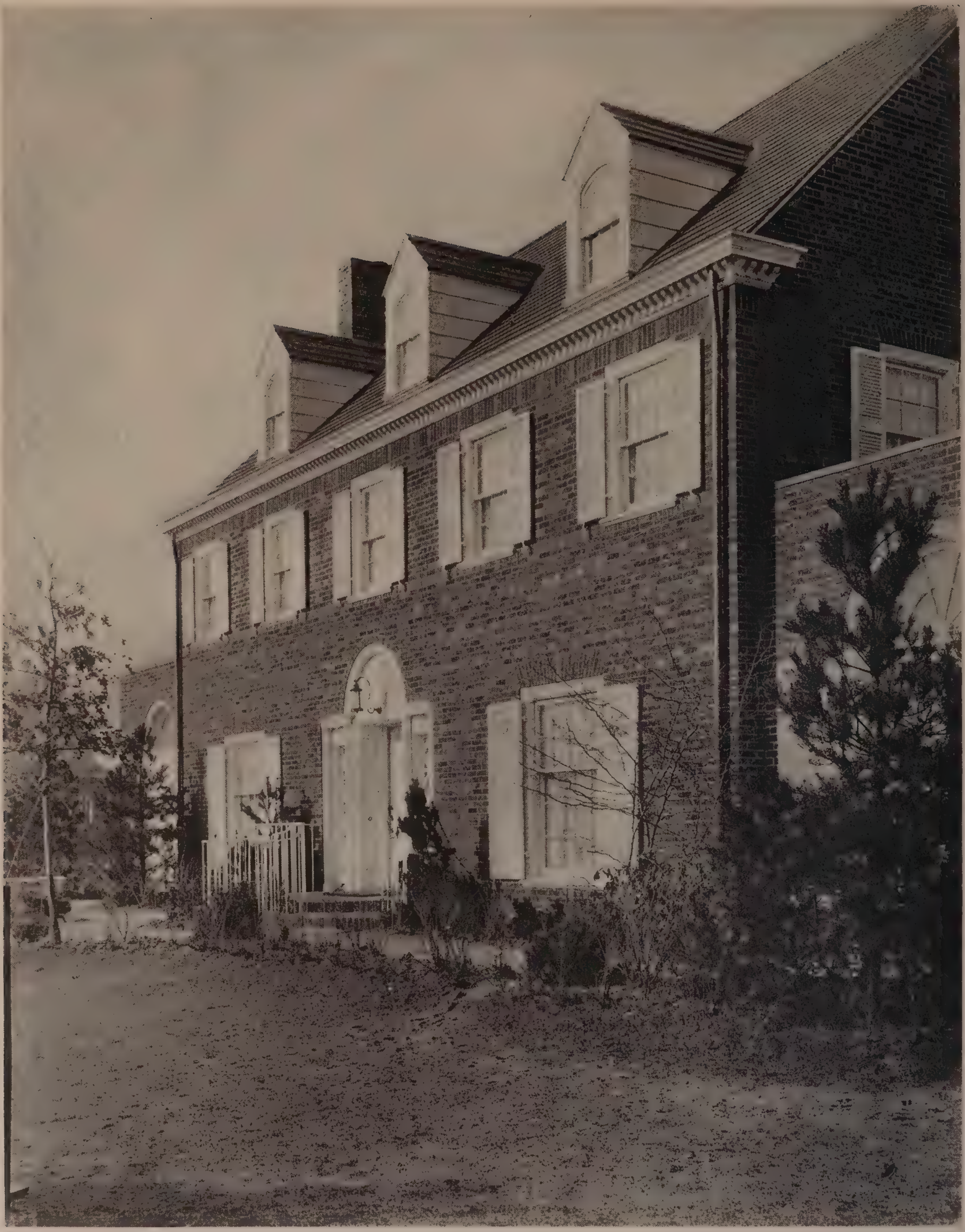
Dining Room

RESIDENCE OF R. T. CRANE, JR., ESQ., JEKYL ISLAND, GEORGIA

David Adler and Robert Work, Architects

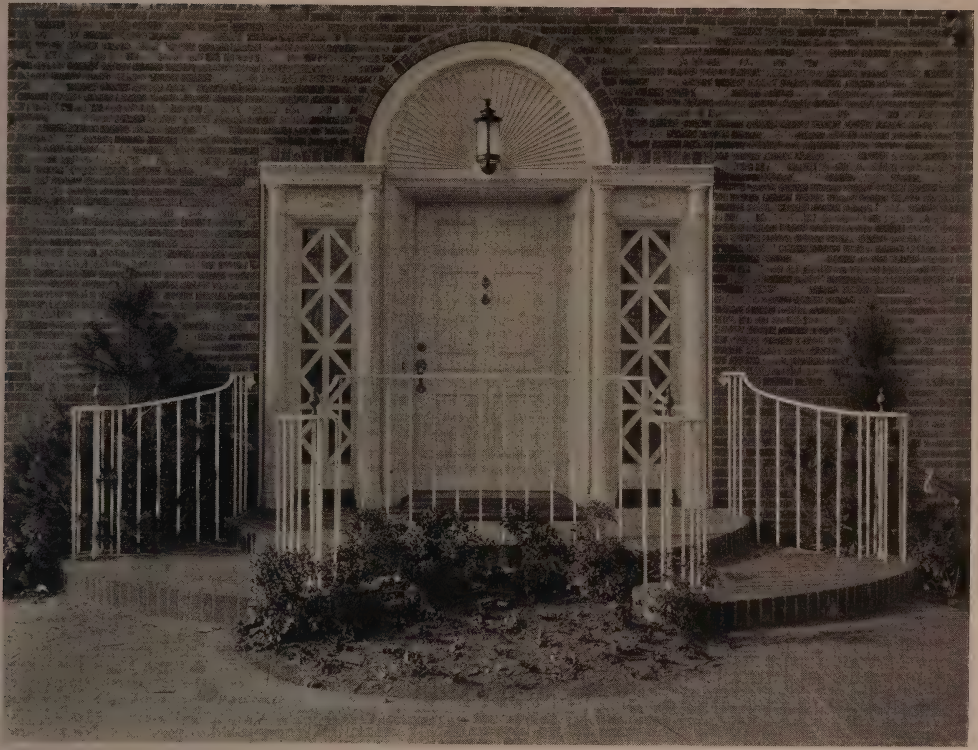


Looking into the Court
RESIDENCE OF R. T. CRANE, JR., ESQ., JEKYL ISLAND, GEORGIA
David Adler and Robert Work, Architects



Main Façade

RESIDENCE OF ROBERT ANDERSON, ESQ., MONTCLAIR, NEW JERSEY
Francis A. Nelson, Architect



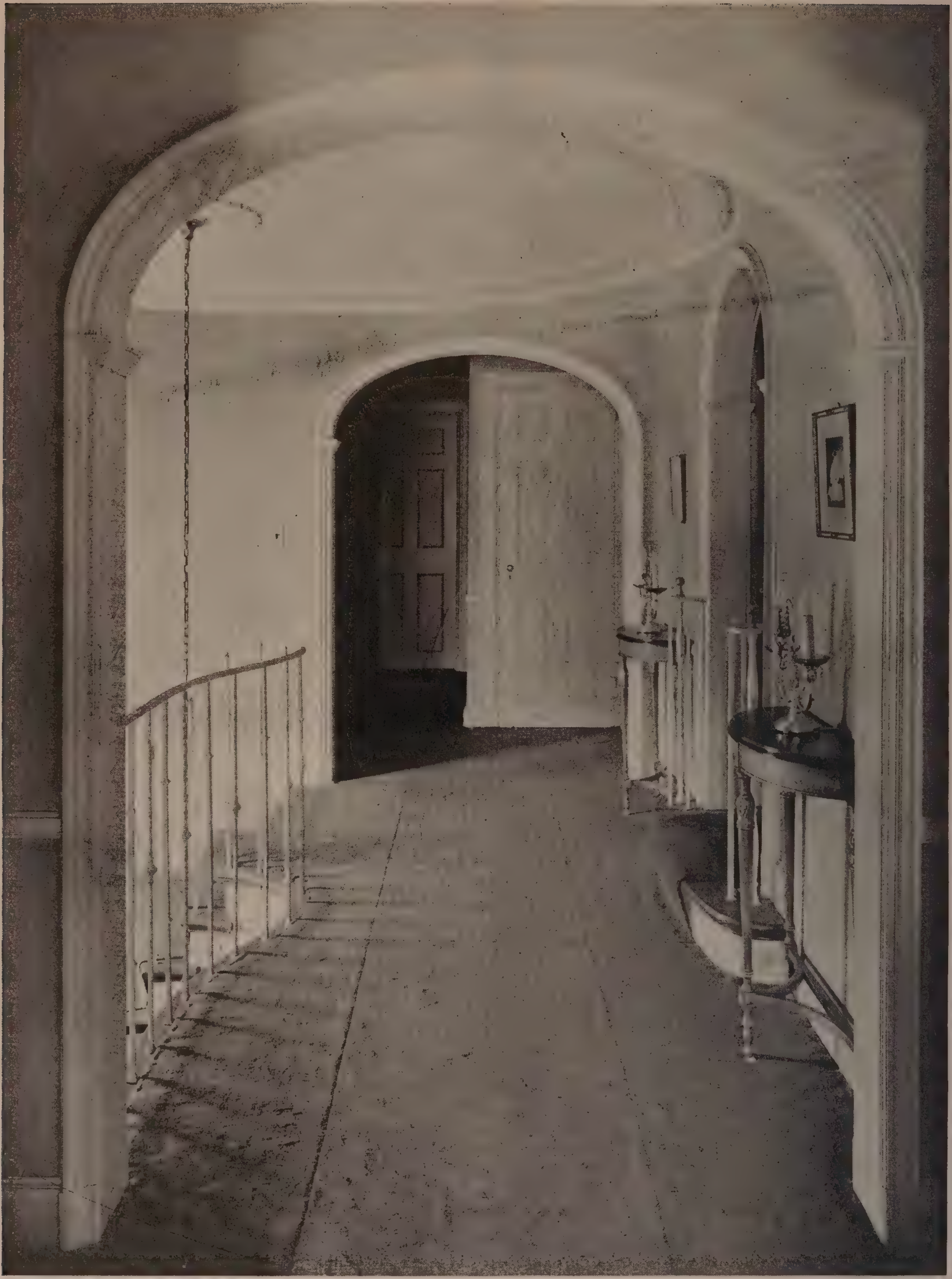
Entrance Detail
RESIDENCE OF ROBERT ANDERSON, ESQ., MONTCLAIR, NEW JERSEY
Francis A. Nelson, Architect

but we can hardly imagine it was consciously designed with that in mind, as the sole purpose of a country house; it is a by-product of good architecture and good taste interacting upon each other.

The third of these three, the Stikeman house, must also have been thought of as a whole, and not as an opportunity to work off an urge toward the picturesque. The composition is as unlike either of the other two houses as they are unlike each other, but it is as truly a unified whole and not an assemblage of unrelated parts as they are. It is less easy when working with English cottage elements to withstand the impulse to incorporate all, or as many as possible of the amusing pieces of detail one has seen. The tendency far too frequently, is to use a doorway from Kent, an arcade from Caen, the dormers of Athelhampton and to tie them together by a straggling sort of roof, excusing the slovenly design by the "picturesque effect" thus obtained. Mellor, Meigs and Howe do not design that way; their knowledge of precedent is complete enough to include most of the Kentish doors and Athelhampton dormers that other people know, but the selective process is to be seen in their designs; the details are subordinate to the composition of the whole.

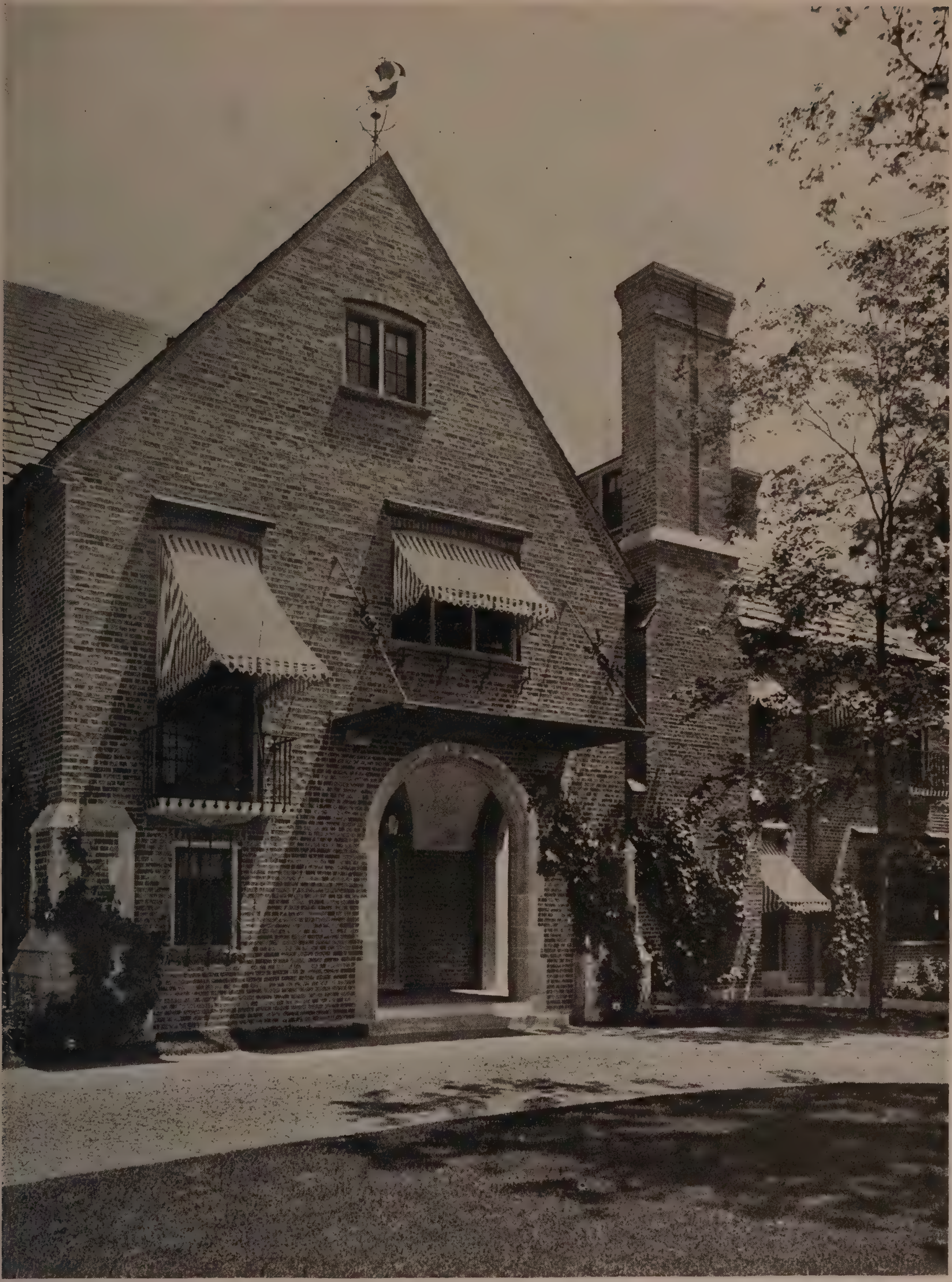
It is in the work of architects of the class of these men that the hope of our architecture lies. Perhaps we have no reason to be discouraged at its present condition. It is true the great mass of American buildings has improved enormously; the real estate development of today will be found greatly improved over that of five years ago, and jig-saw ornament is nearly extinct. These are good signs. On the other hand, that

(*Text continued on page* 486)



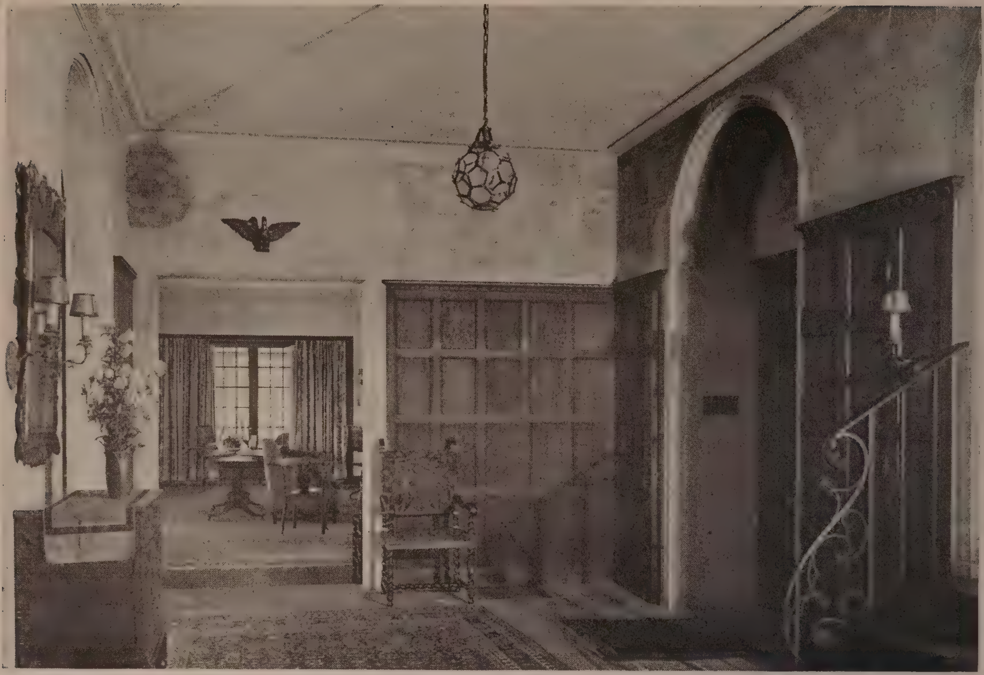
Stair hall

RESIDENCE OF ROBERT ANDERSON, ESQ., MONTCLAIR, NEW JERSEY
Francis A. Nelson, Architect

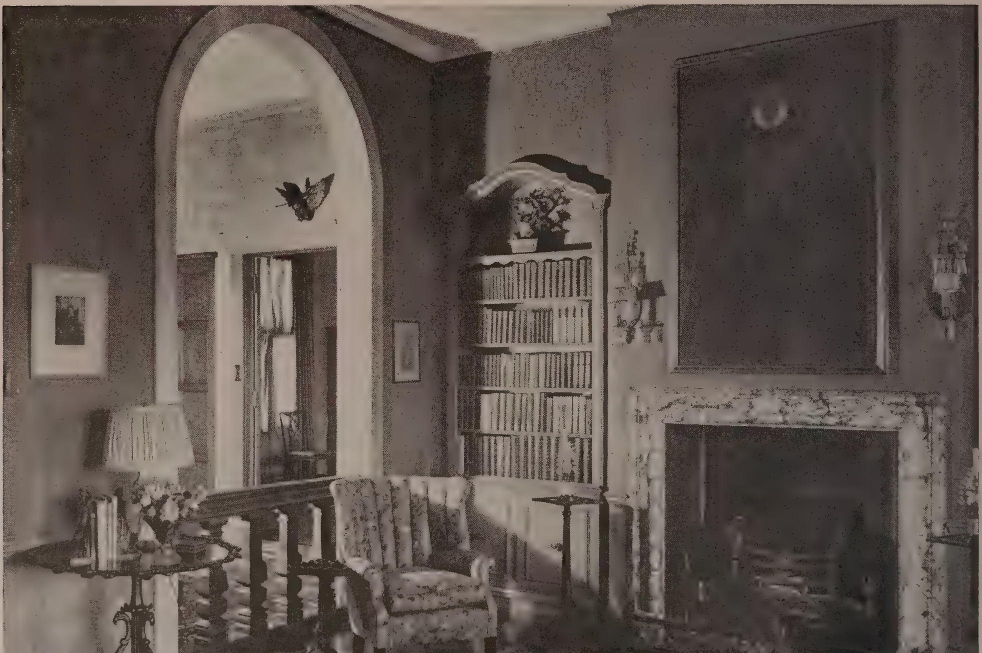


Main Façade

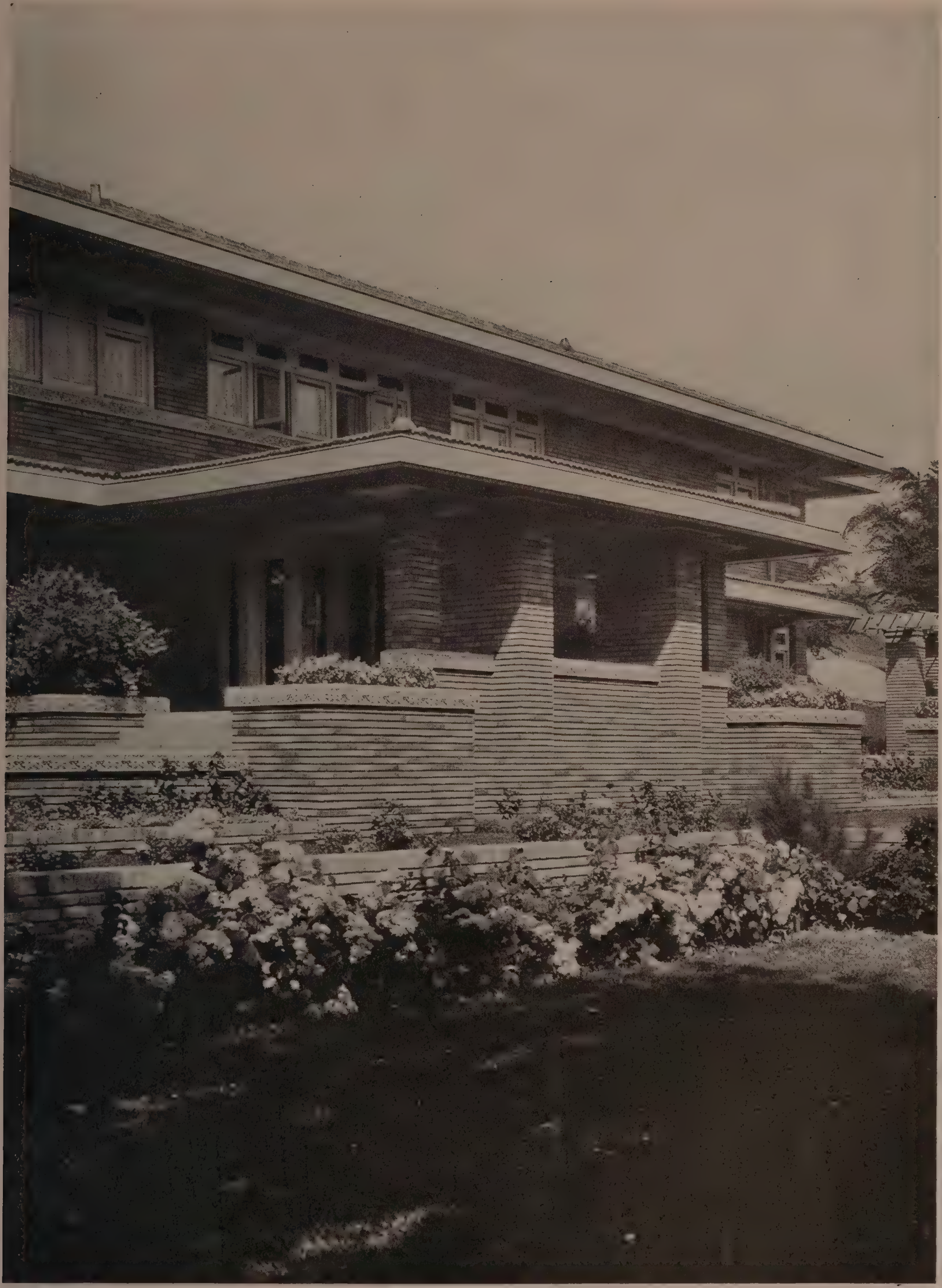
COUNTRY HOUSE FOR A. G. BECKER, ESQ., RAVINIA, ILLINOIS
Howard Shaw, Architect



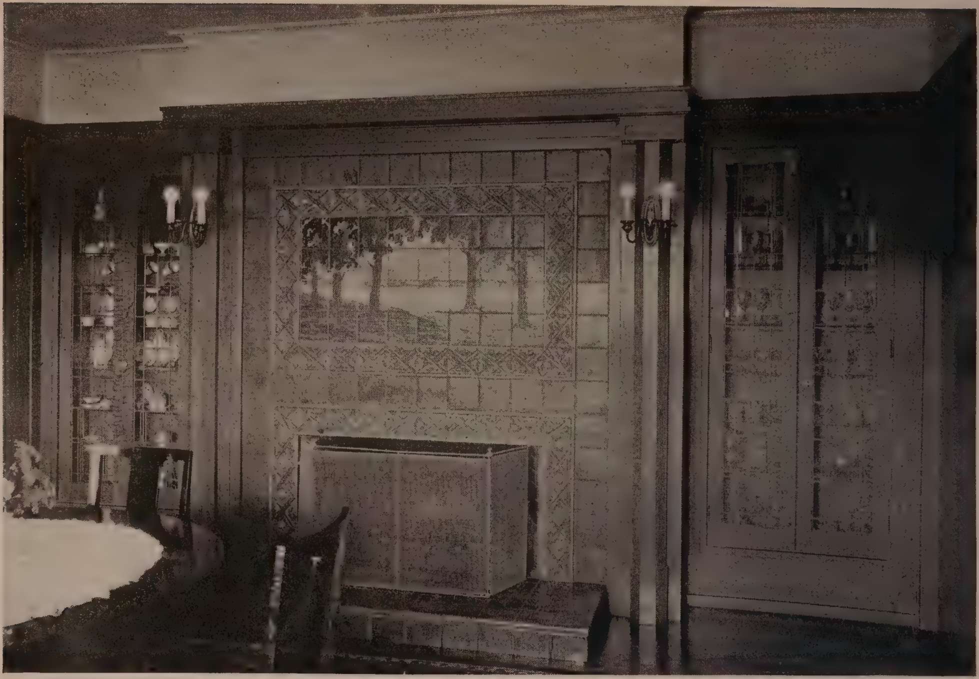
Hall



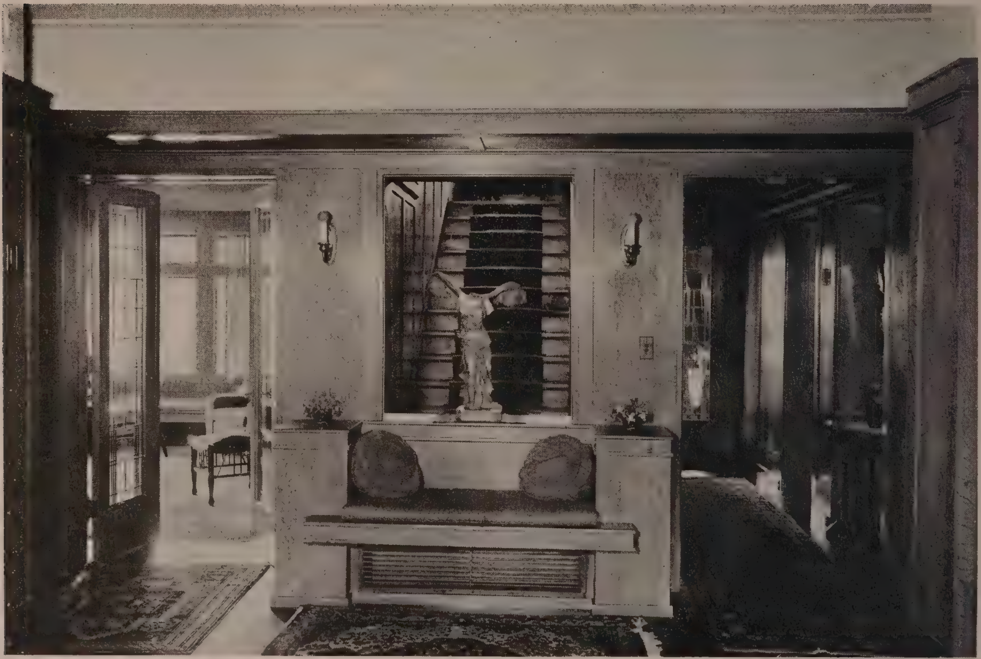
Library
COUNTRY HOUSE FOR A. G. BECKER, ESQ., RAVINIA, ILLINOIS
Howard Shaw, Architect



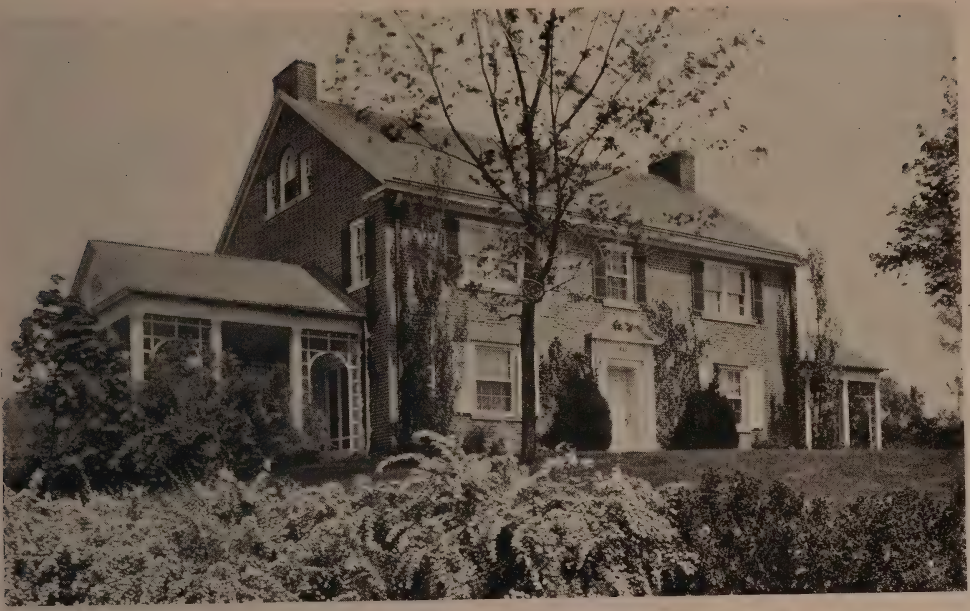
RESIDENCE OF H. H. EVERIST, ESQ., SIOUX CITY, IOWA
Wm. L. Steele, Architect



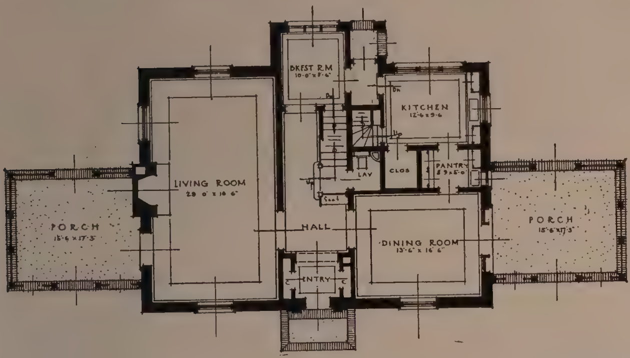
Dining Room



Stair Hall
RESIDENCE OF H. H. EVERIST, ESQ., SIOUX CITY, IOWA
Wm. L. Steele, Architect

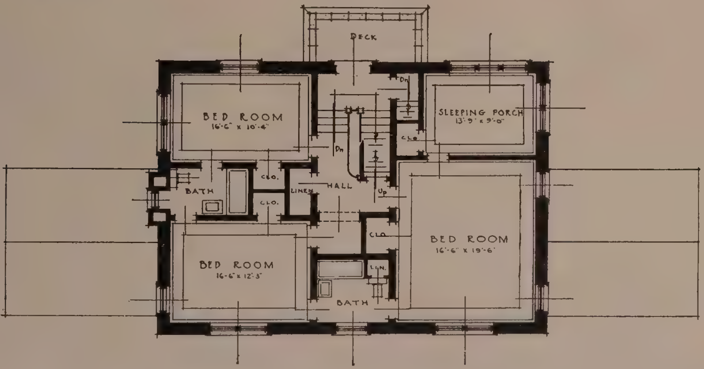


Façade

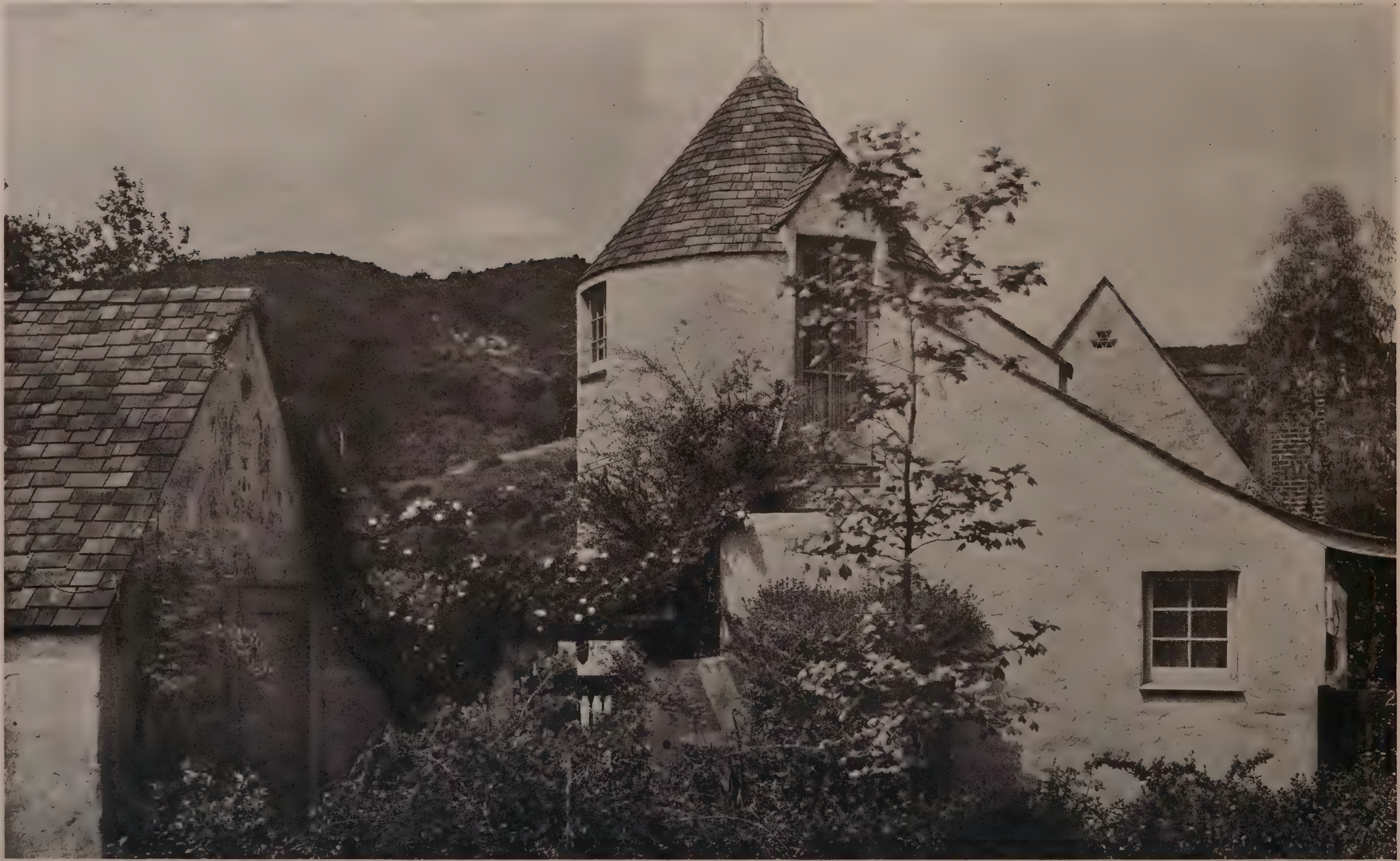


First Floor Plan

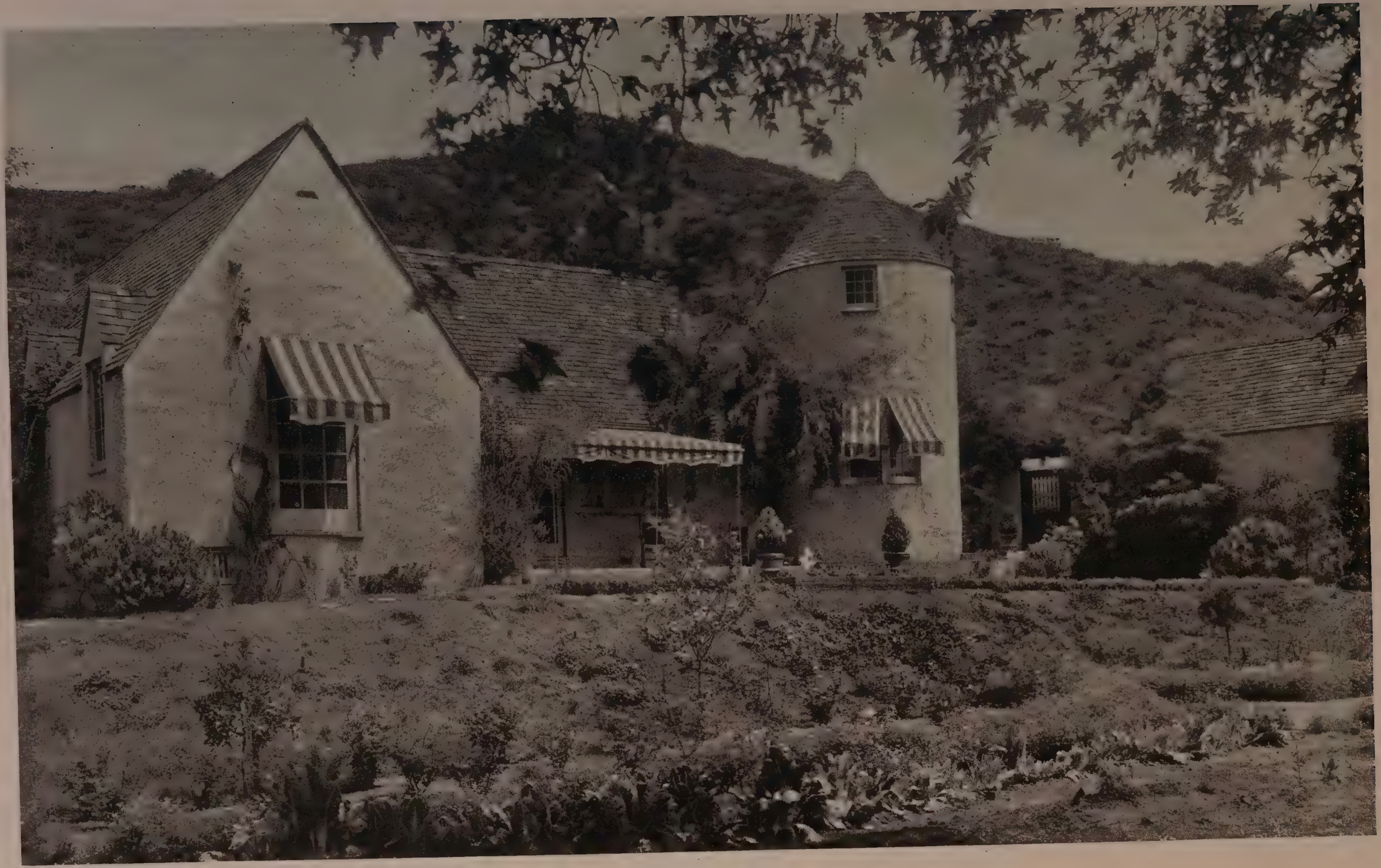
Second Floor Plan



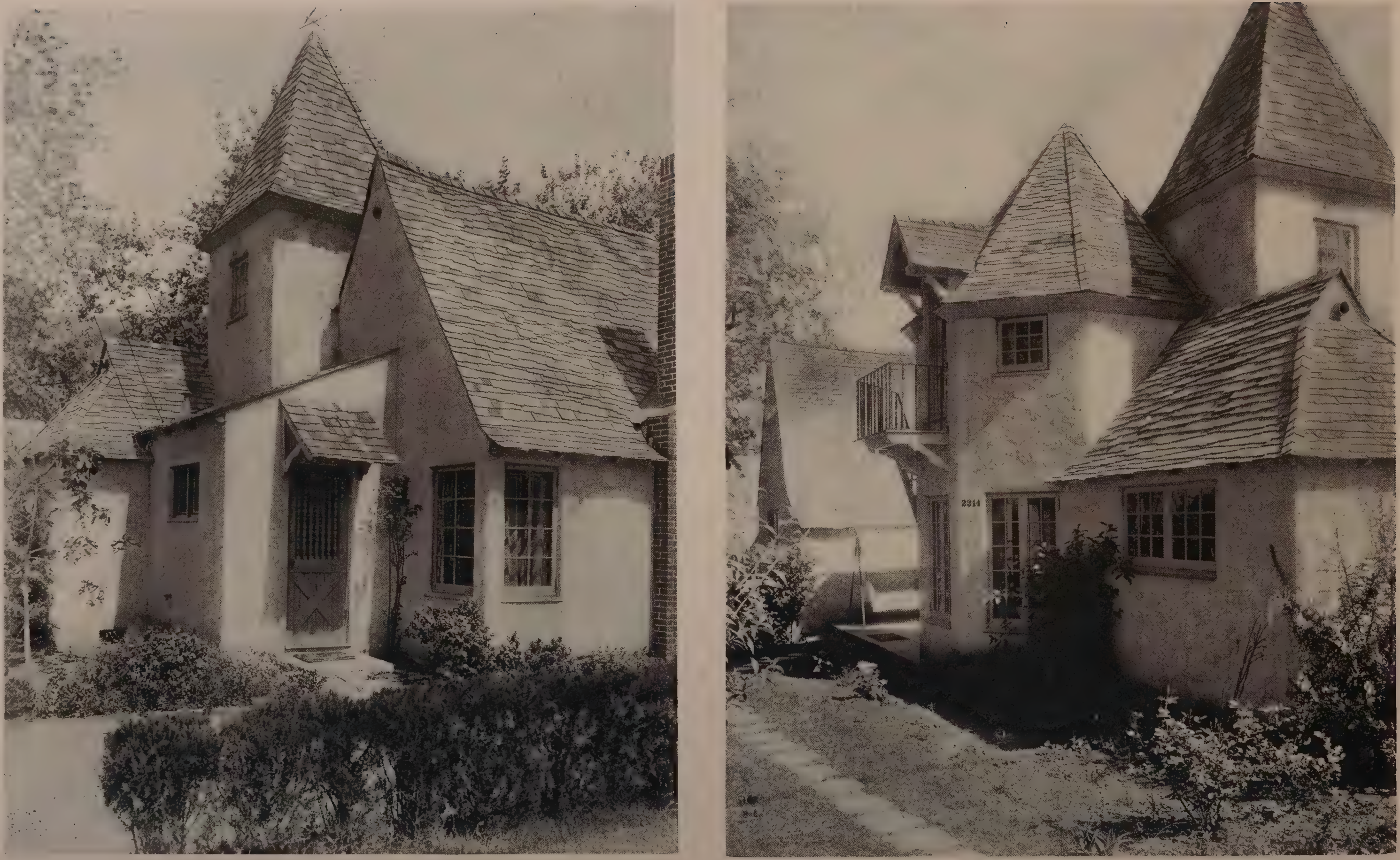
RESIDENCE OF J. F. LAWRENCE, ESQ., KANSAS CITY, MISSOURI
Edward Buehler Delk, Architect



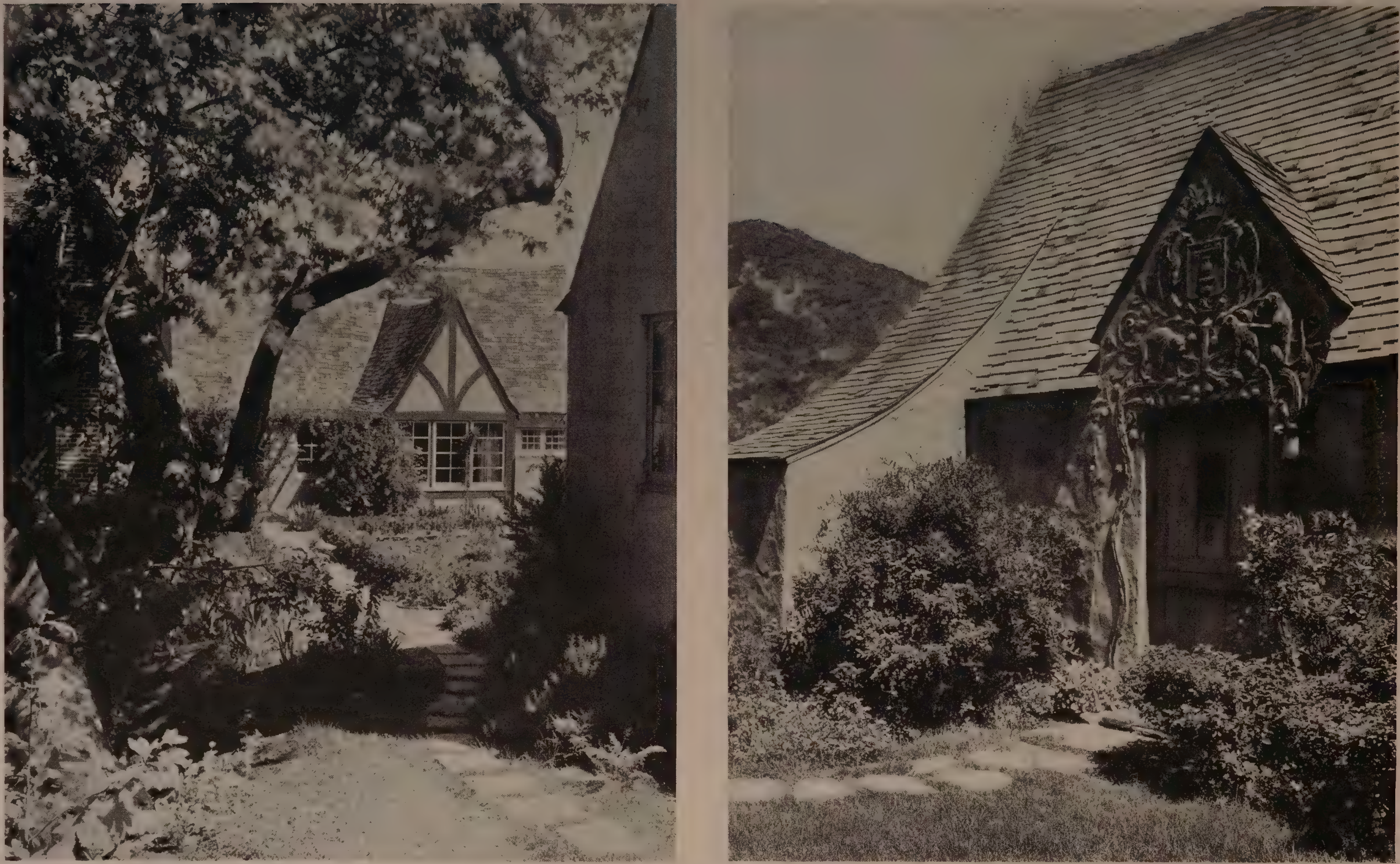
HOUSE IN "THE FRENCH VILLAGE," HOLLYWOOD, CALIFORNIA
Pierpont & Walter S. Davis, Architects



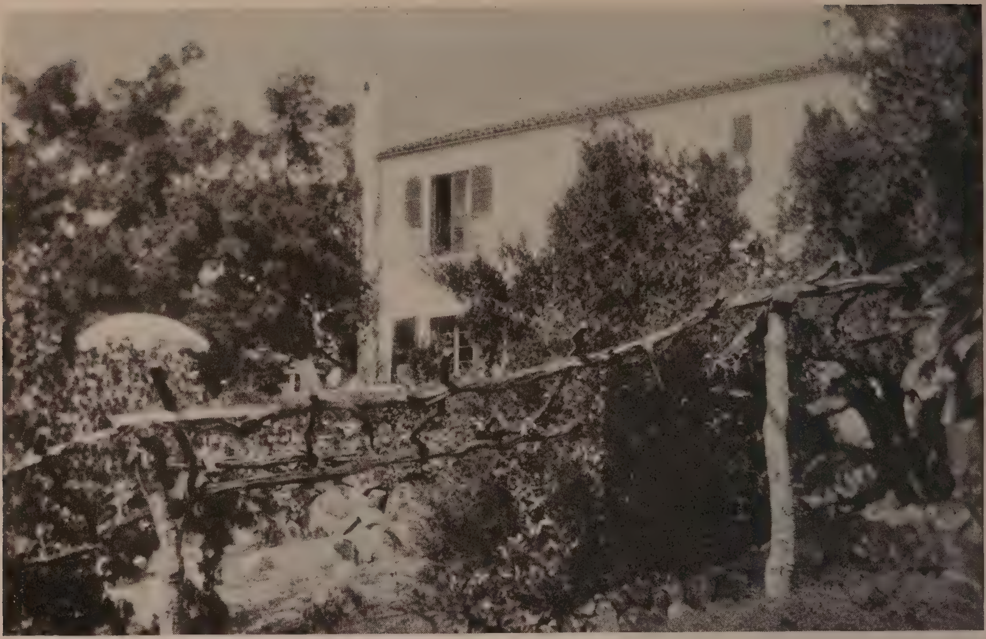
HOUSE IN "THE FRENCH VILLAGE," HOLLYWOOD, CALIFORNIA
Pierpont & Walter S. Davis, Architects



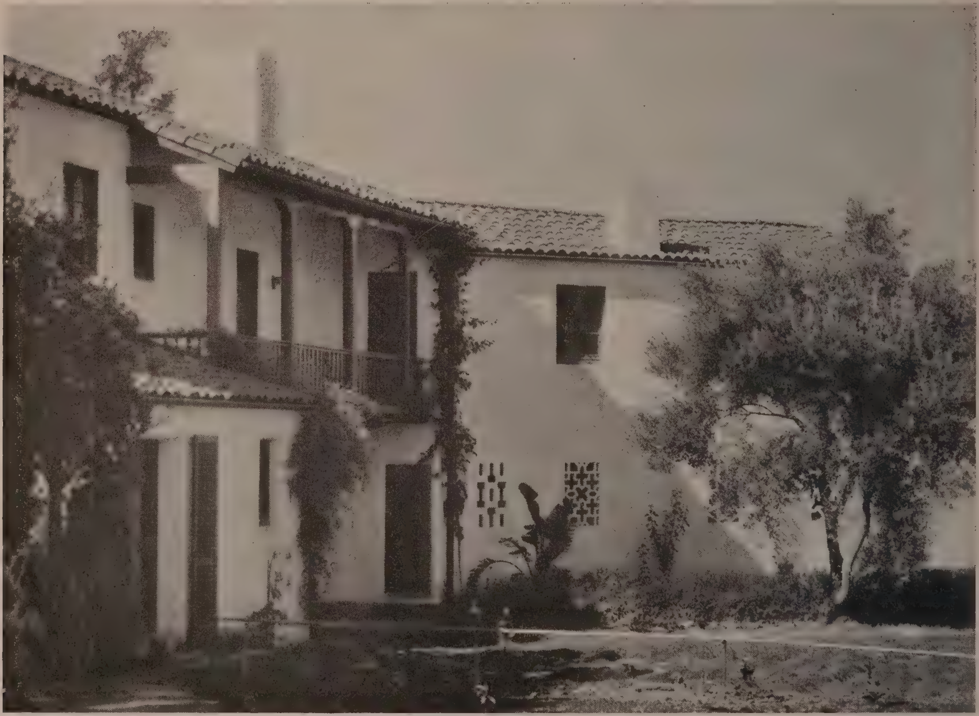
DETAILS OF HOUSES IN "THE FRENCH VILLAGE," HOLLYWOOD, CALIFORNIA
Pierpont & Walter S. Davis, Architects



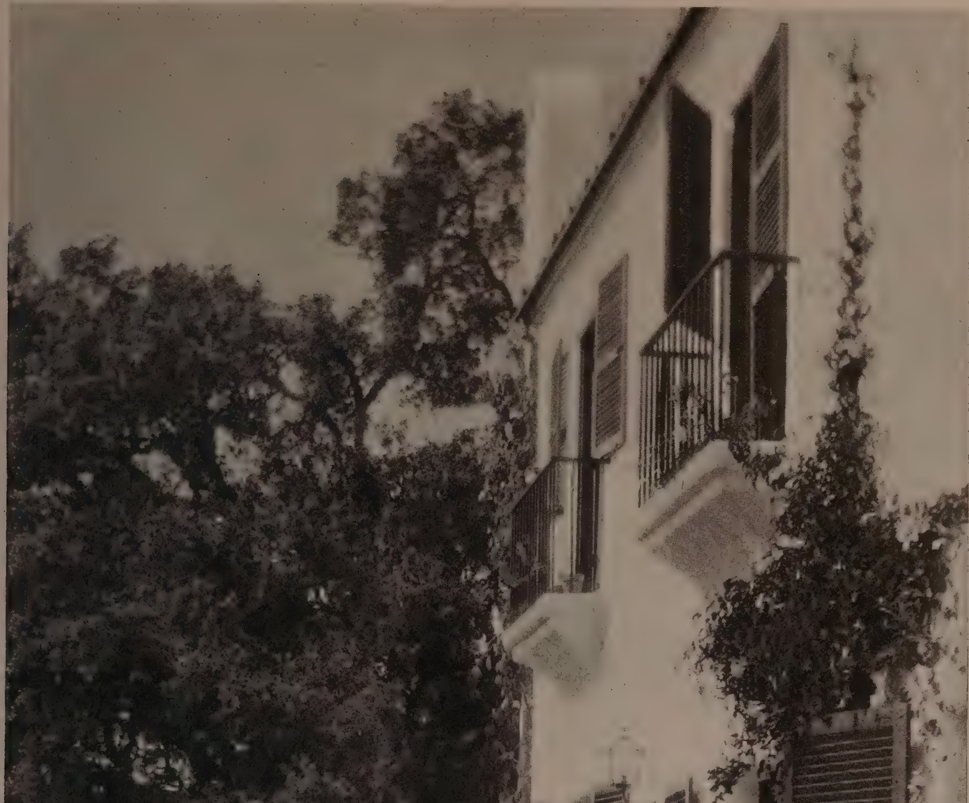
DETAILS OF HOUSES IN "THE FRENCH VILLAGE," HOLLYWOOD, CALIFORNIA
Pierpont & Walter S. Davis, Architects



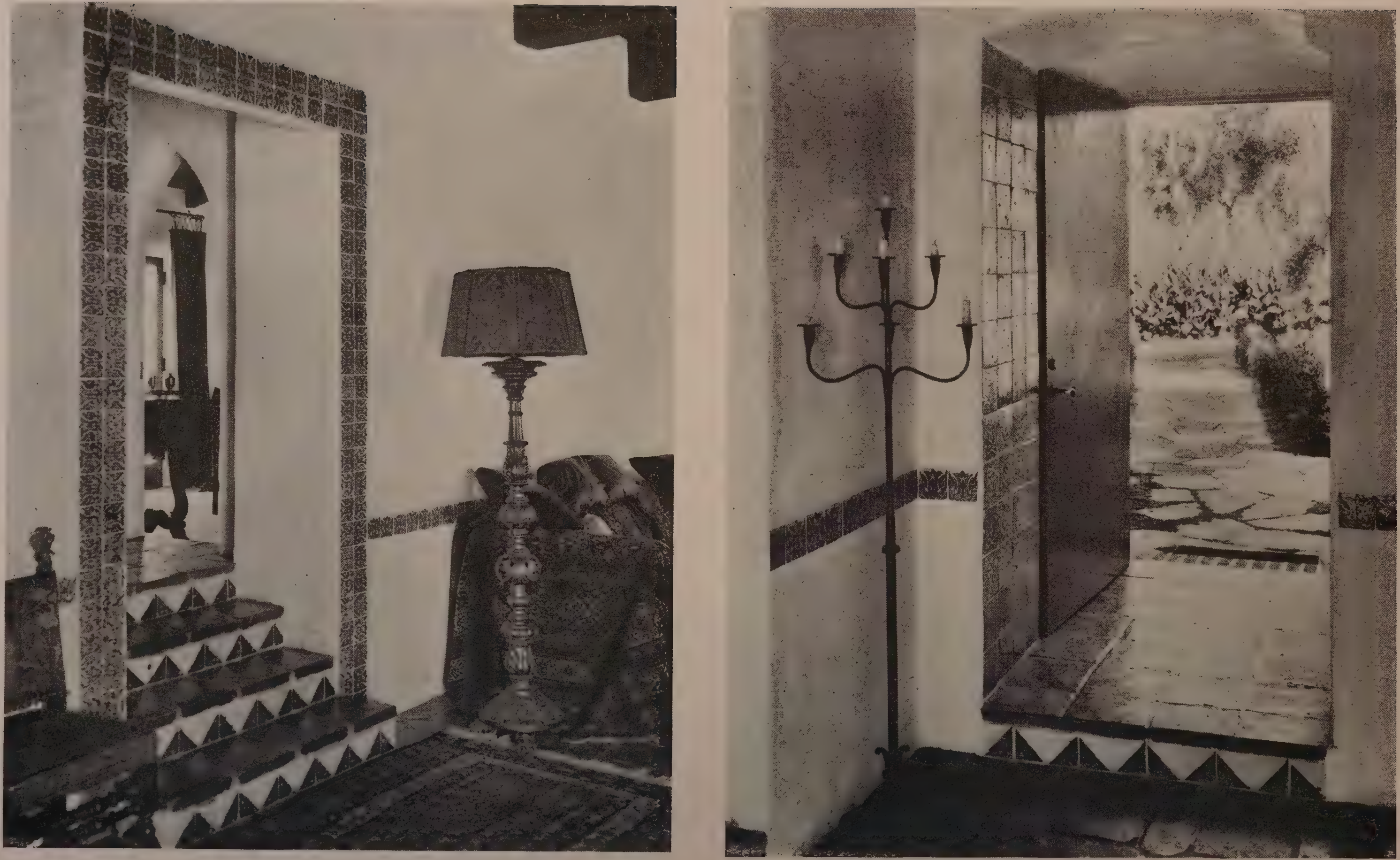
View Toward Terrace



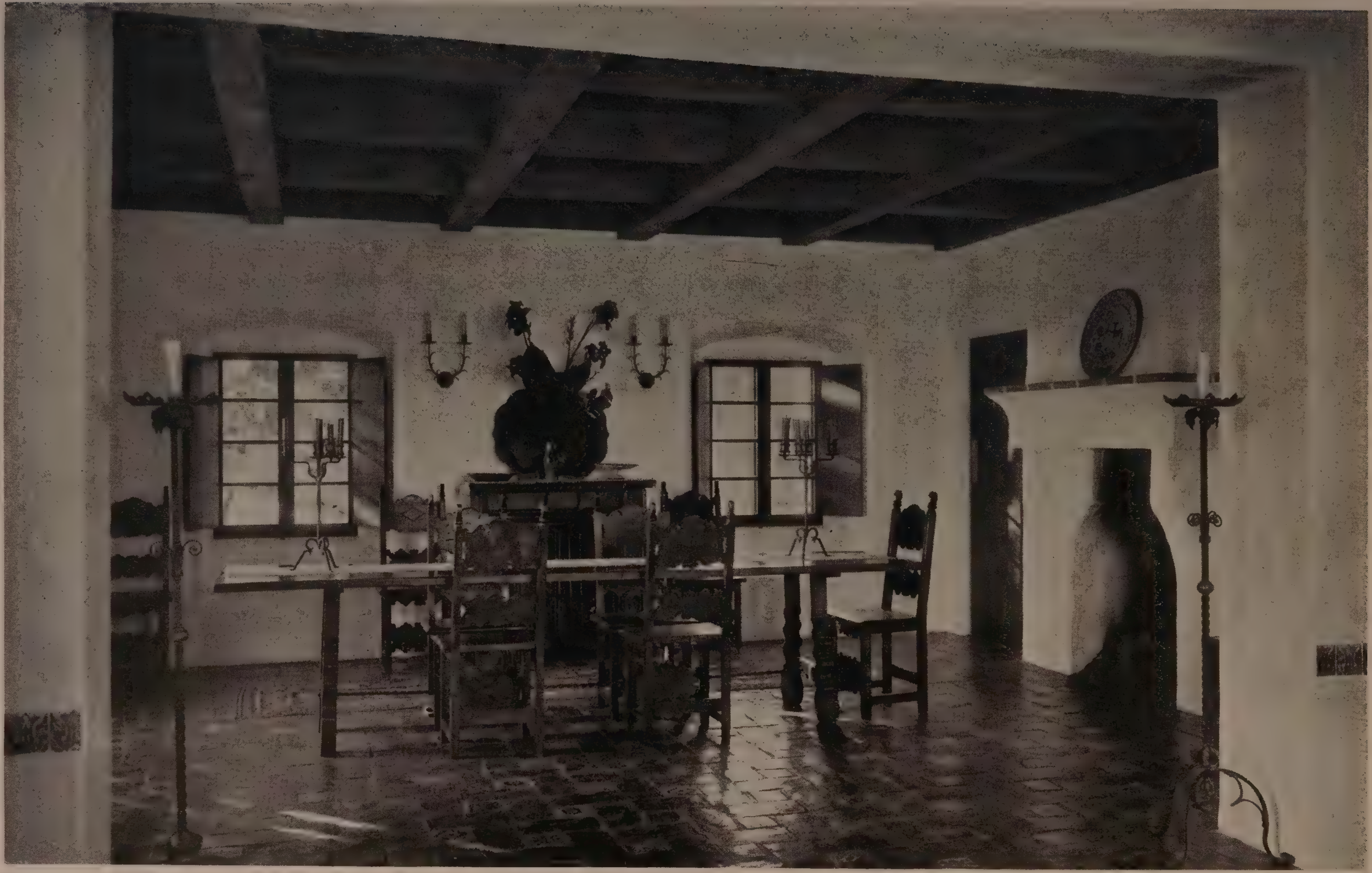
Garden Elevation
RESIDENCE OF IRVING WRIGHT, ESQ., SANTA BARBARA, CALIFORNIA
George Washington Smith, Architect



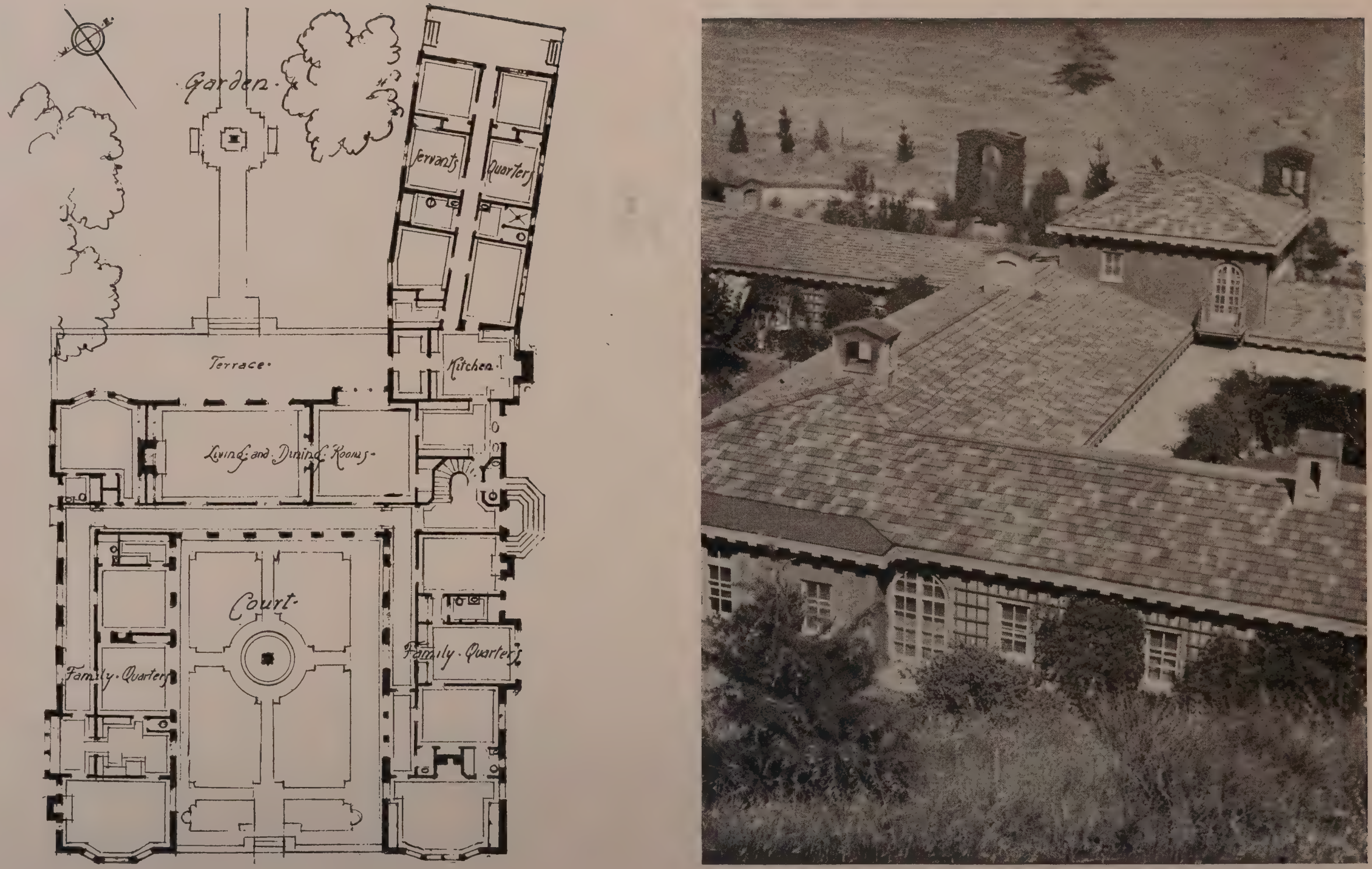
Terrace Detail
RESIDENCE OF IRVING WRIGHT, ESQ., SANTA BARBARA, CALIFORNIA
George Washington Smith, Architect



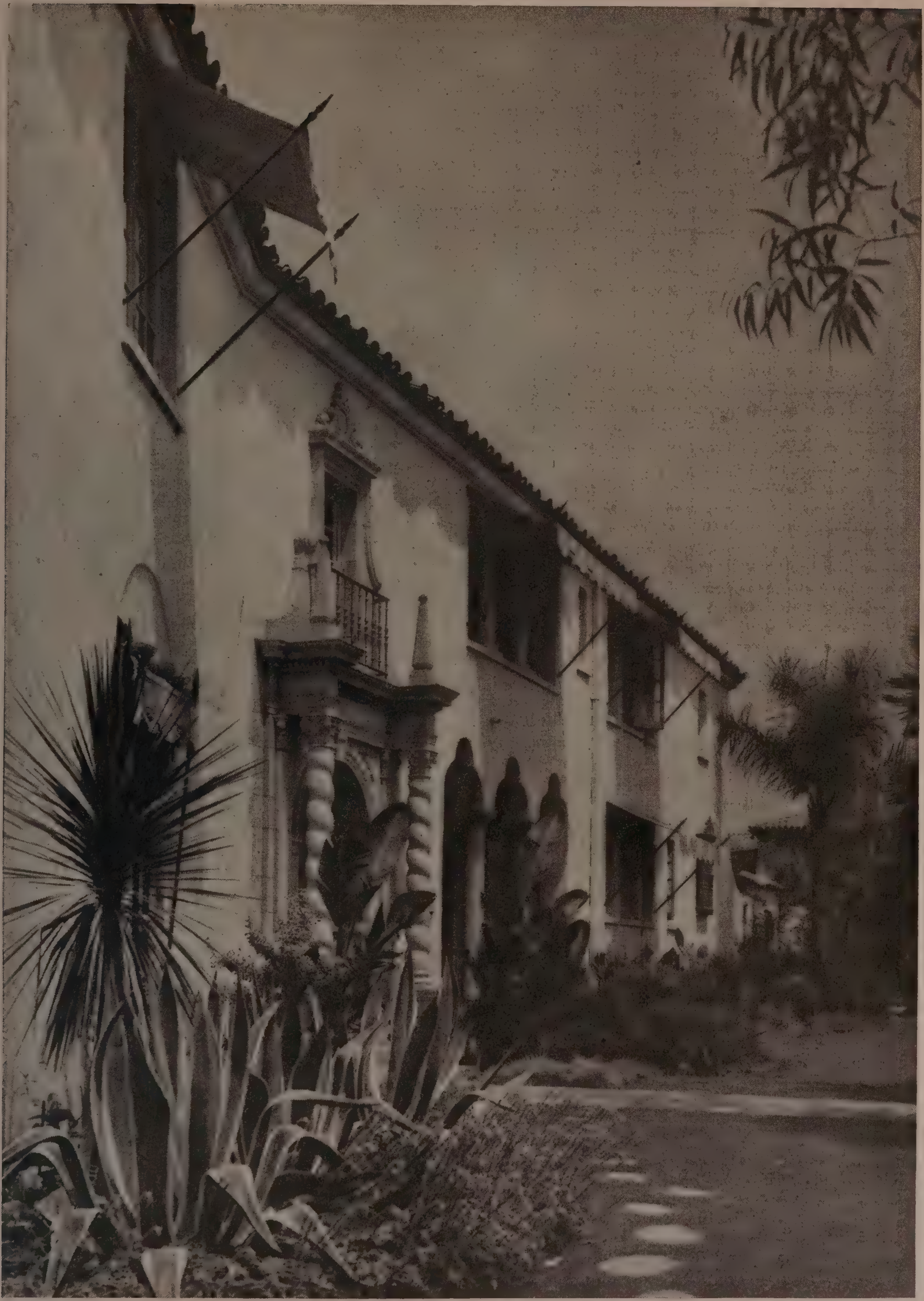
RESIDENCE OF IRVING WRIGHT, ESQ., SANTA BARBARA, CALIFORNIA
George Washington Smith, Architect



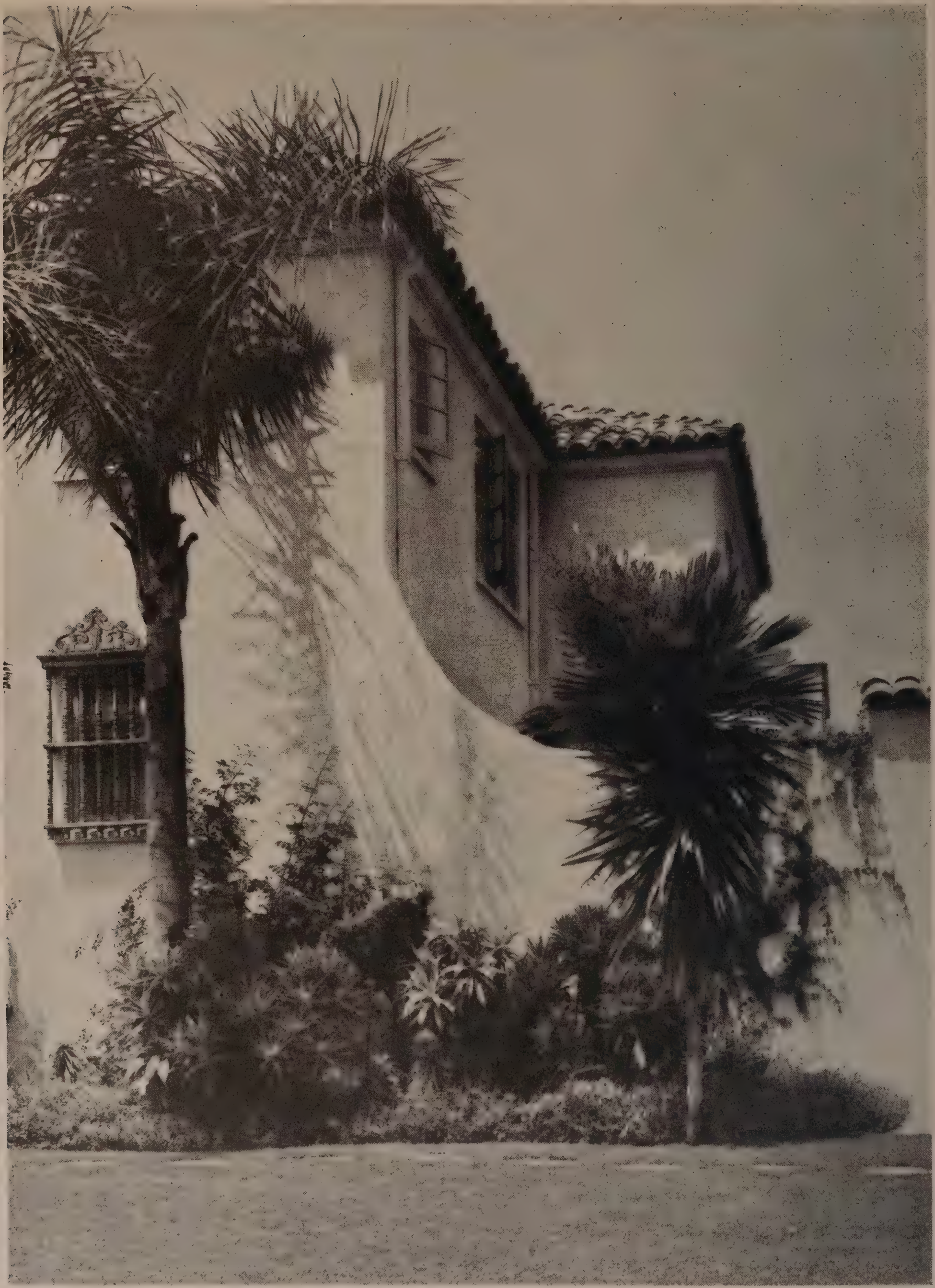
RESIDENCE OF IRVING WRIGHT, ESQ., SANTA BARBARA, CALIFORNIA
George Washington Smith, Architect



"BLACKHAWK RANCH," ANSEL M. EASTON, ESQ., OWNER, CONTRA COSTA COUNTY, CAL.
Louis C. Mullgardt, Architect



RESIDENCE OF M. H. ADAMSON, ESQ., LOS ANGELES, CALIFORNIA
Elmer Grey, Architect



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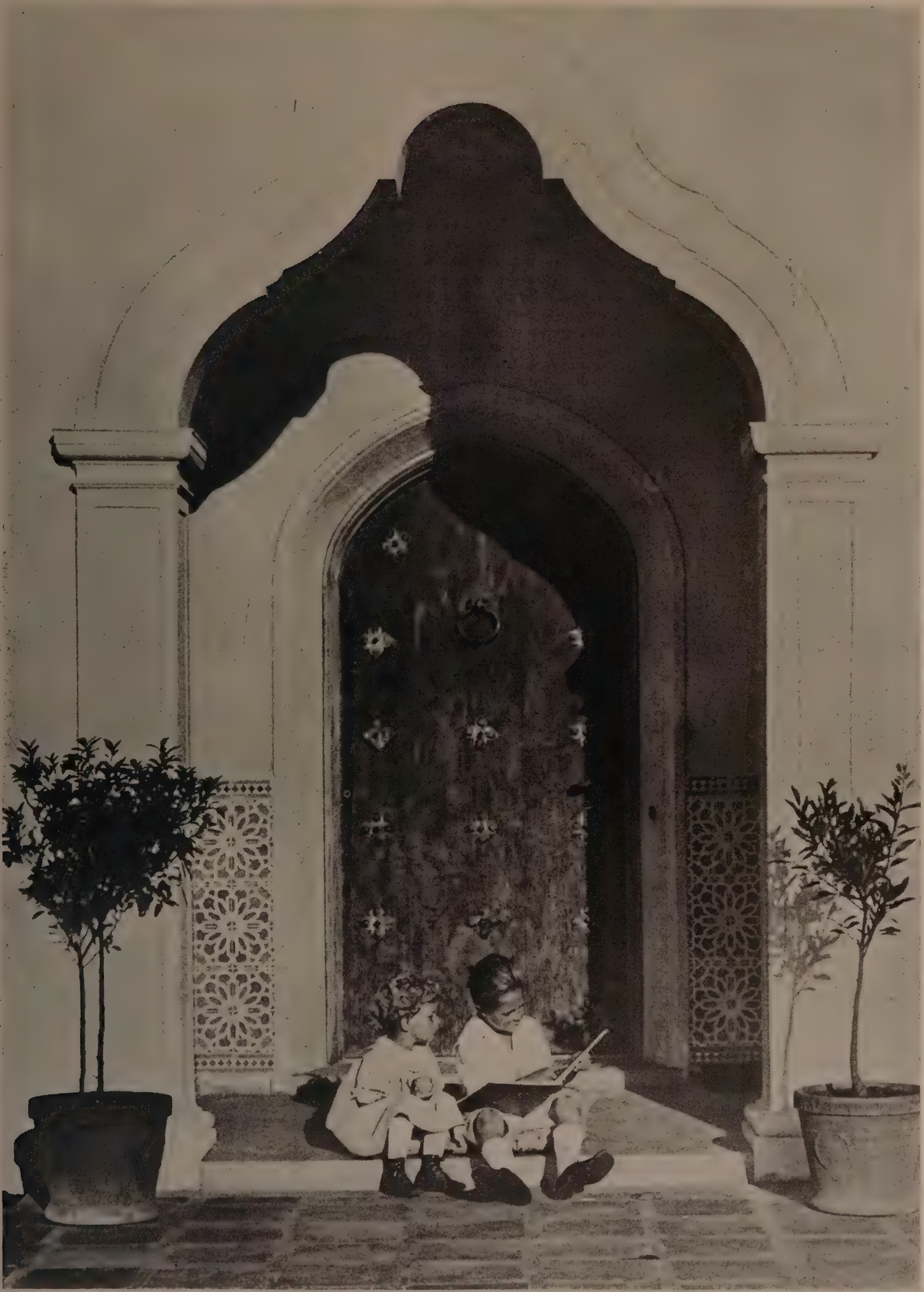
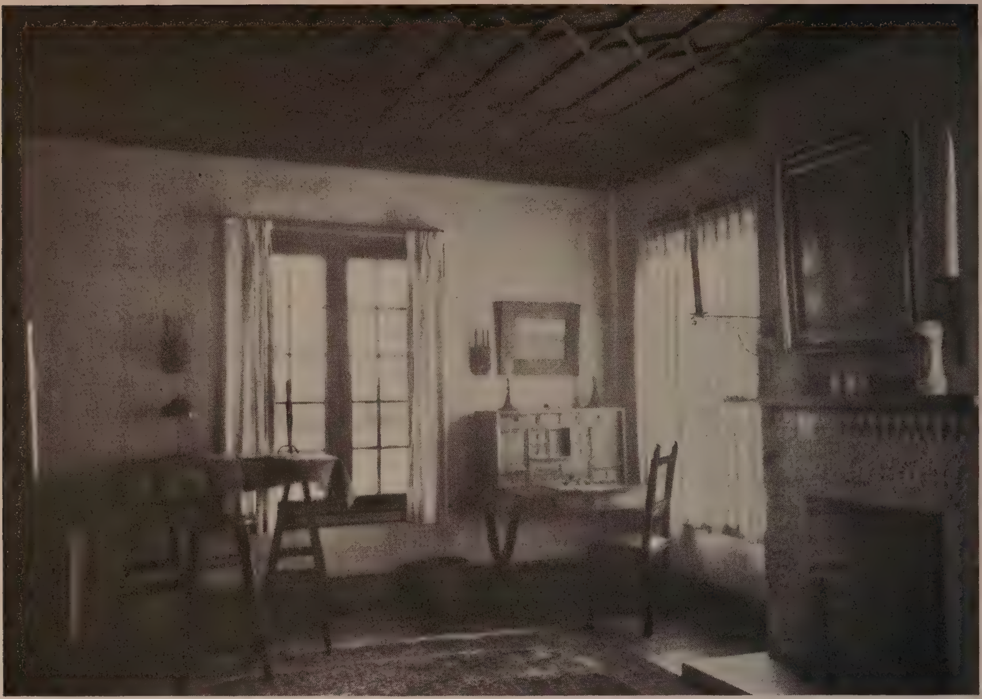
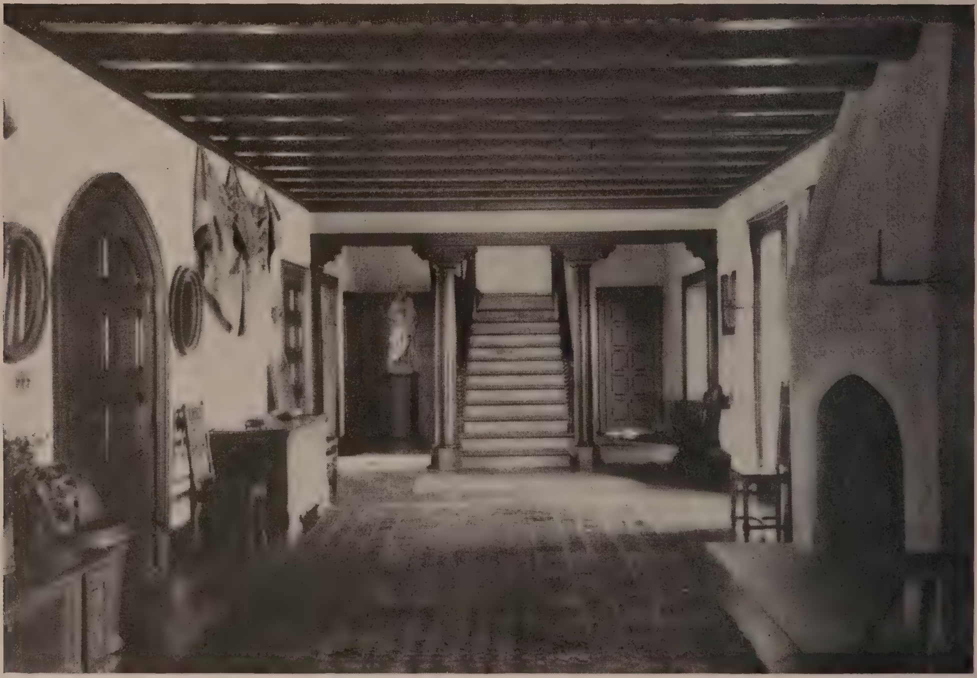
Elmer Grey, Architect



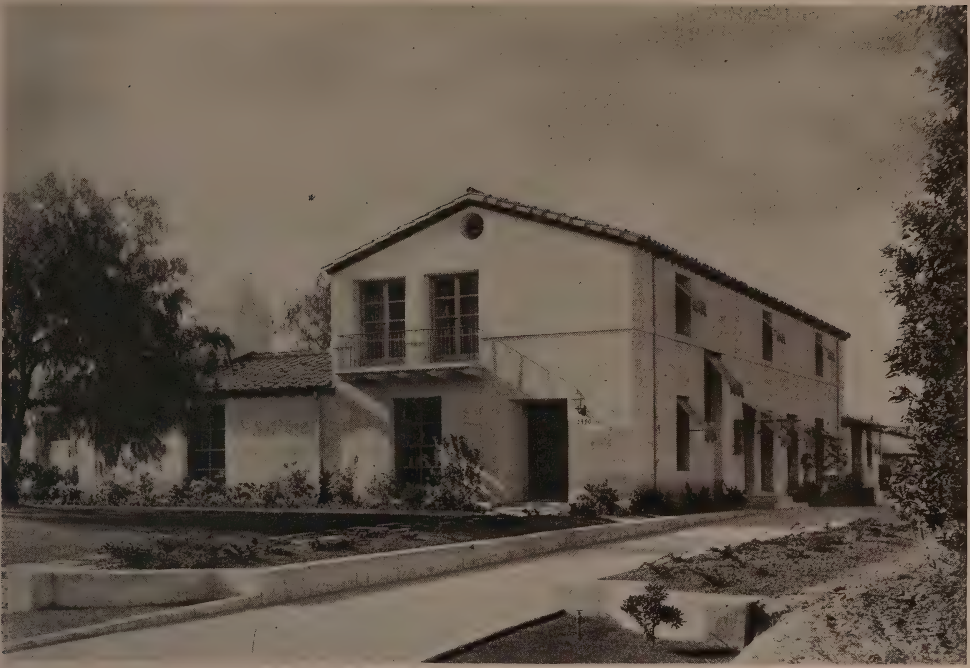
RESIDENCE OF WM. TEMPLETON JOHNSON, SAN DIEGO, CALIFORNIA
Wm. Templeton Johnson, Architect



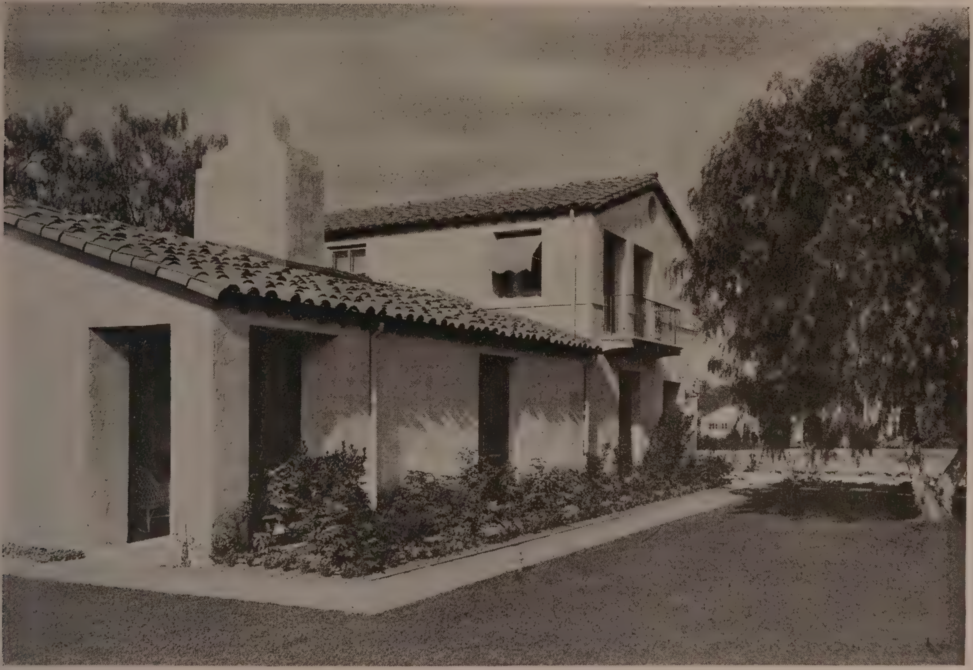
Study



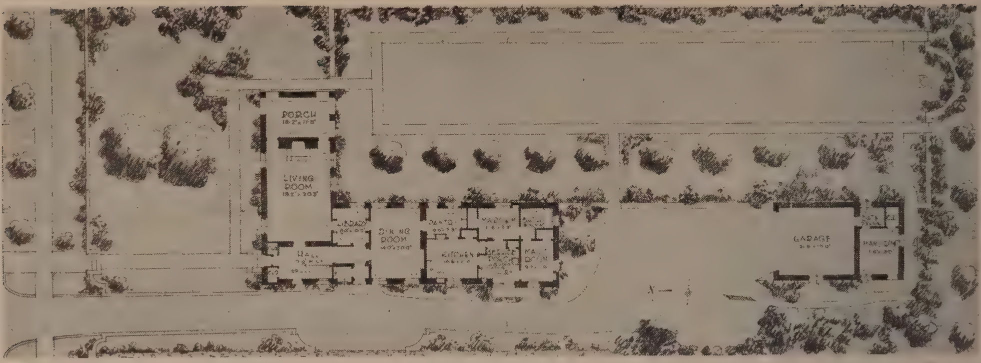
Hallway
RESIDENCE OF WM. TEMPLETON, ESQ., SAN DIEGO, CALIFORNIA
Wm. Templeton Johnson, Architect



Entrance Façade

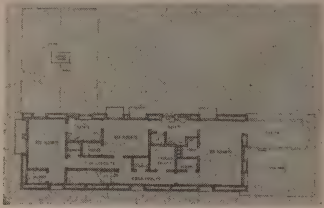


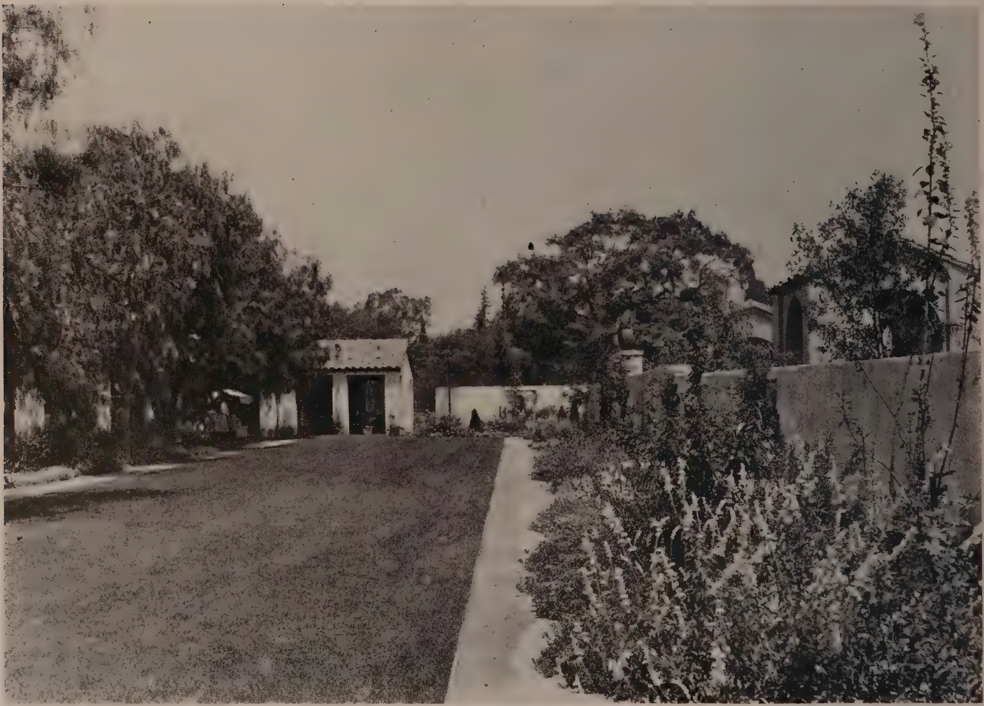
Porch and Street Façade
RESIDENCE OF DR. W. HUMES ROBERTS, PASADENA, CALIFORNIA
Myron Hunt, Architect



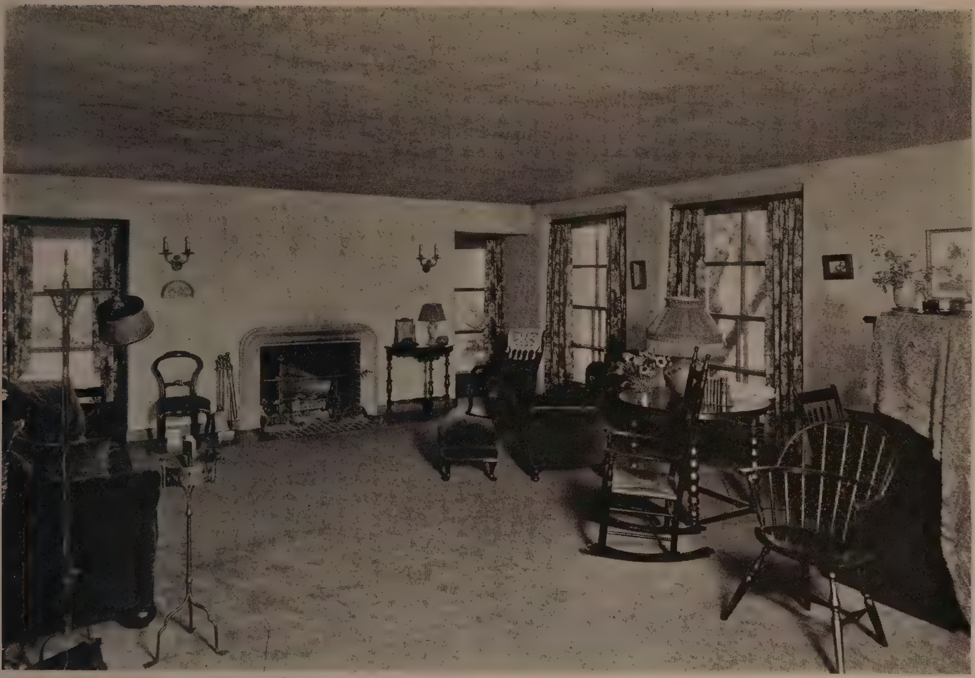
First Floor Plan

Second Floor Plan

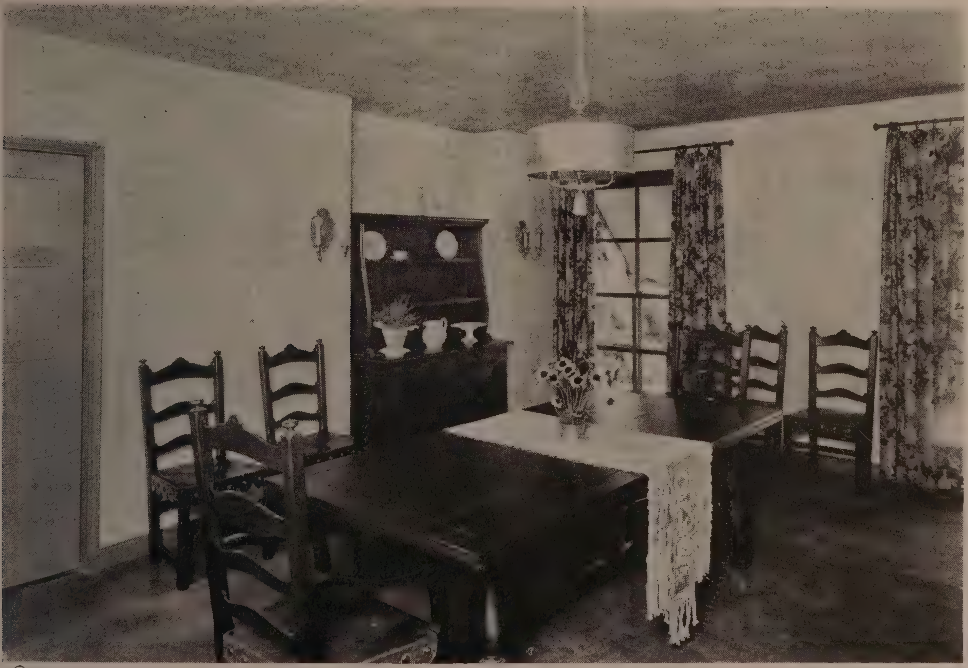




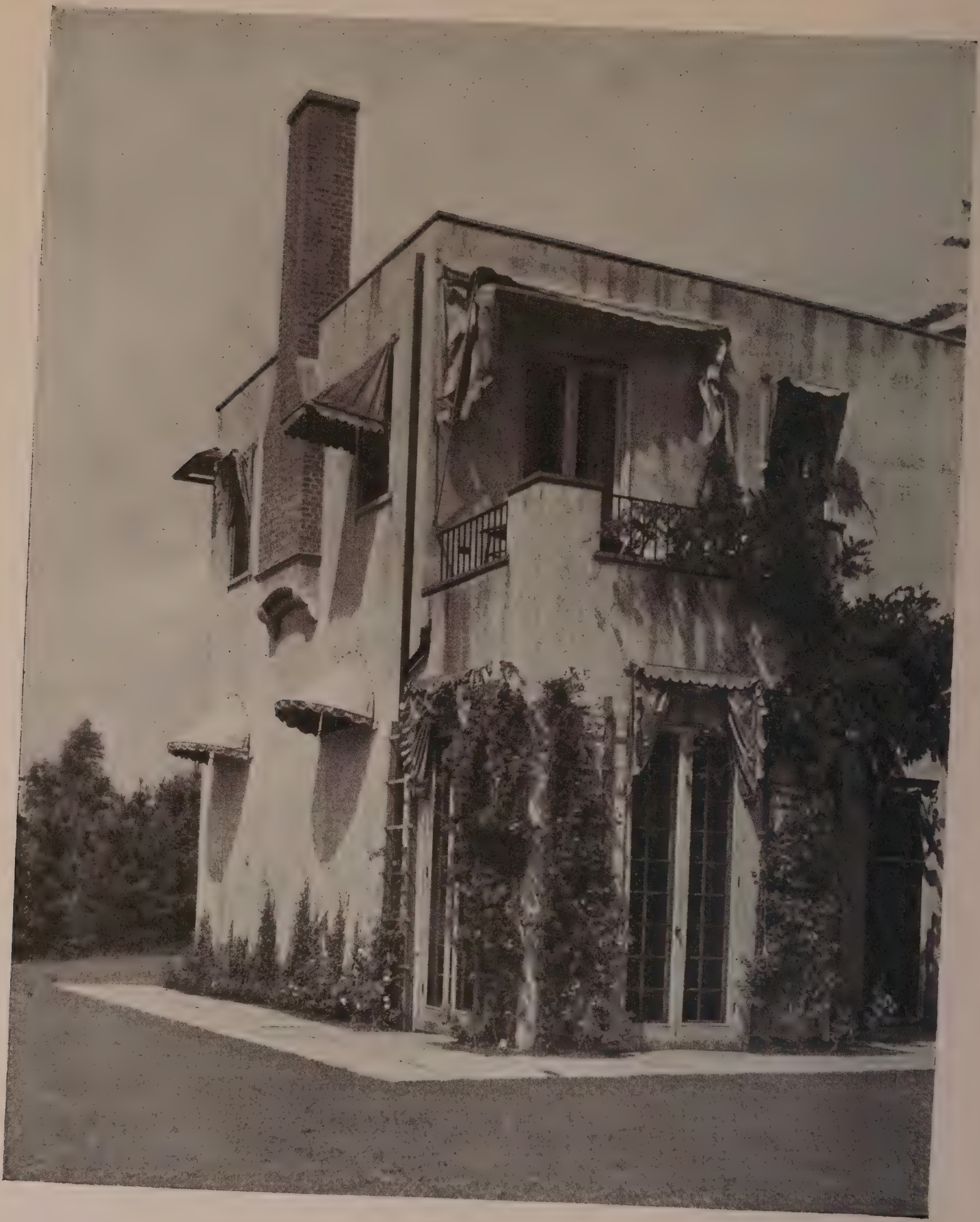
Garden
RESIDENCE OF DR. W. HUMES ROBERTS, PASADENA, CALIFORNIA
Myron Hunt, Architect



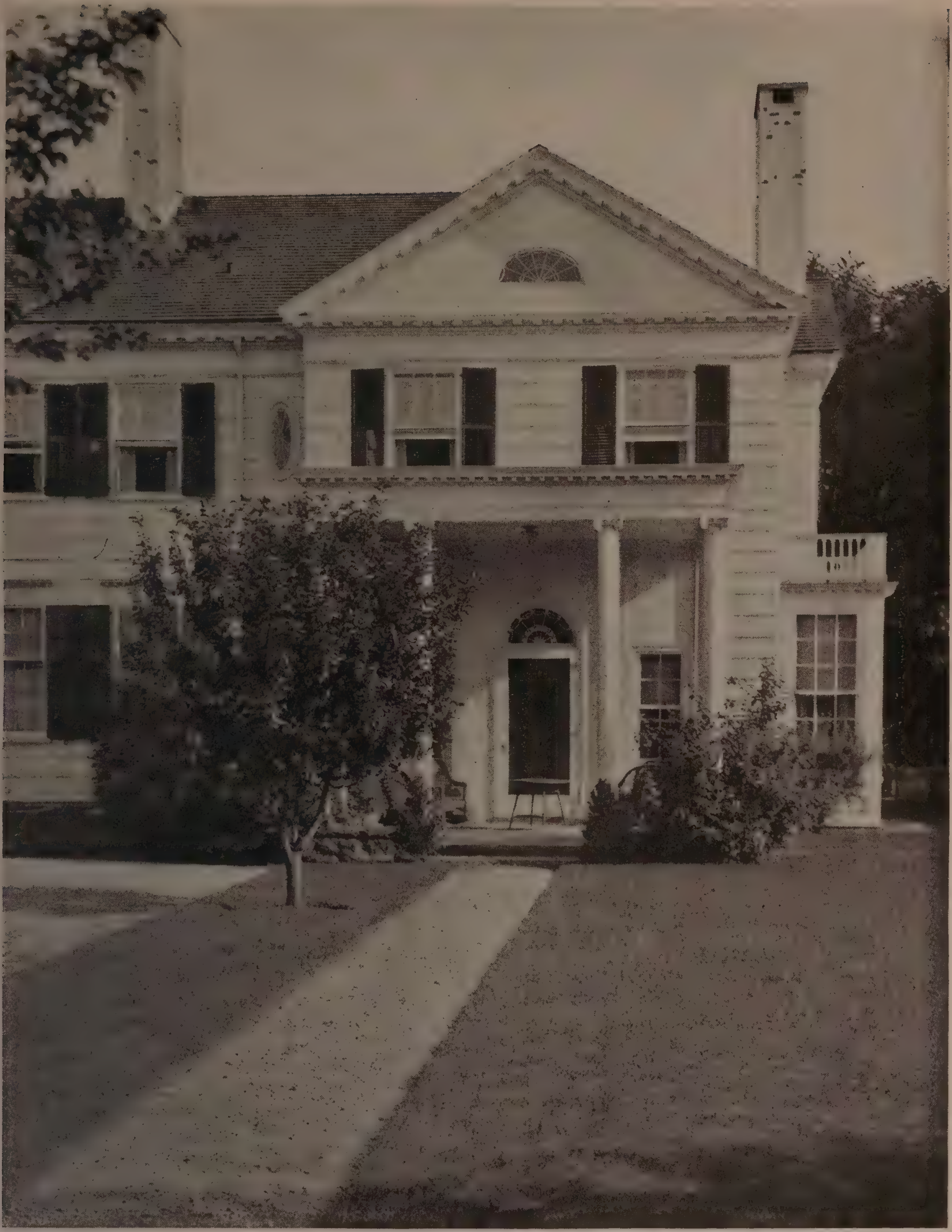
Living Room



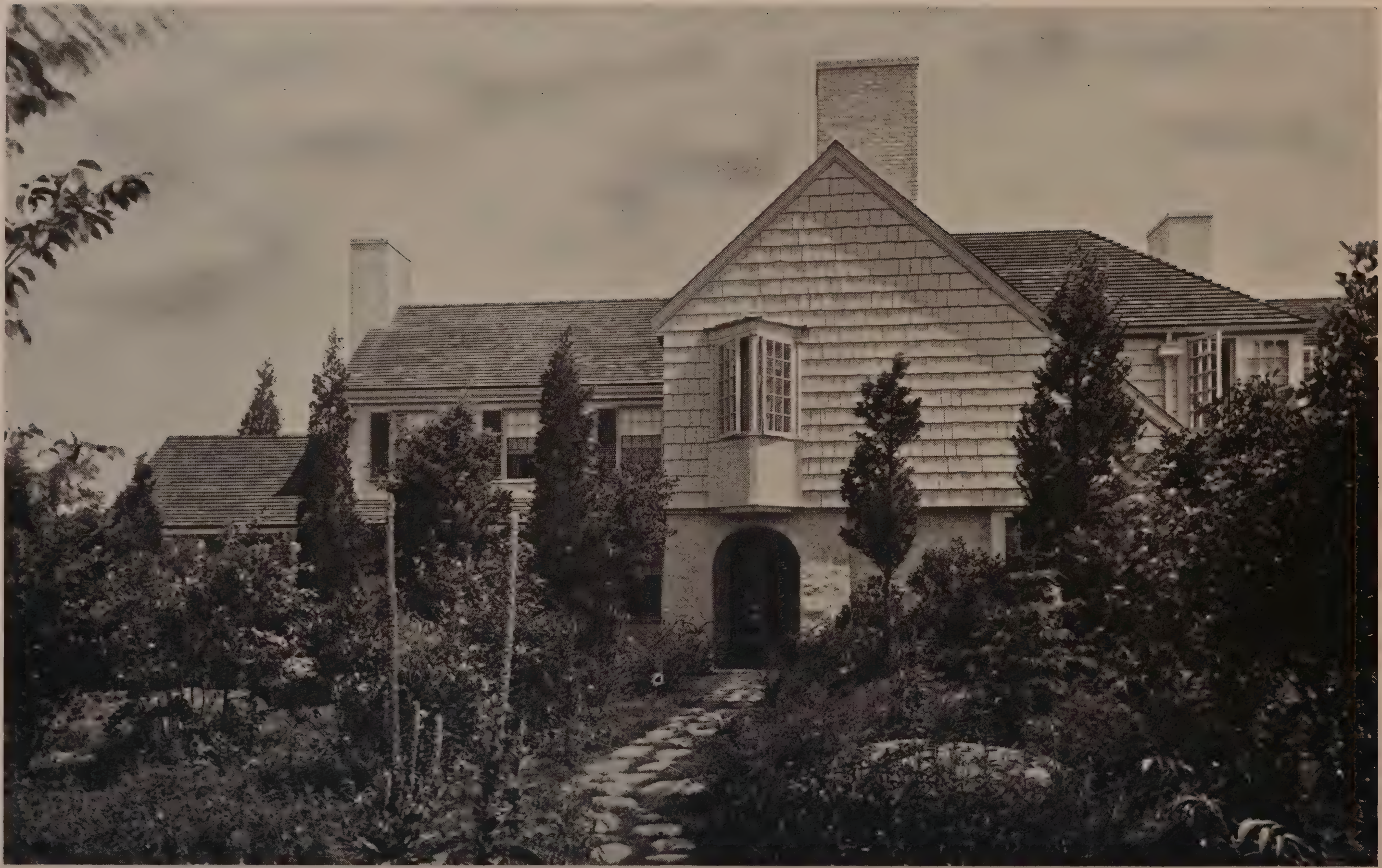
Dining Room
RESIDENCE OF DR. W. HUMES ROBERTS, PASADENA, CALIFORNIA
Myron Hunt, Architect



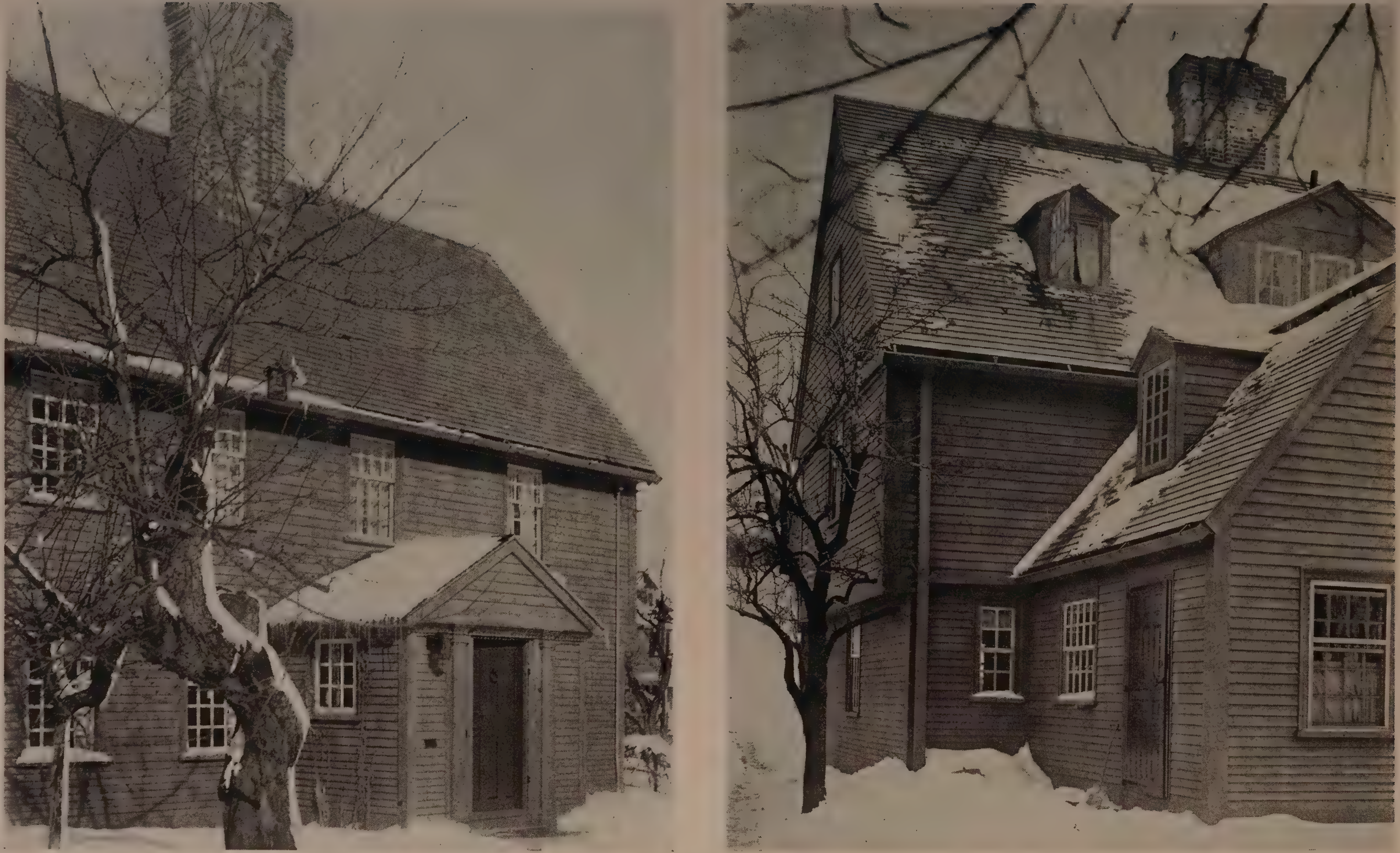
RESIDENCE OF F. MURRAY FORBES, ESQ., NEEDHAM, MASSACHUSETTS
Richardson, Barott & Richardson, Architects



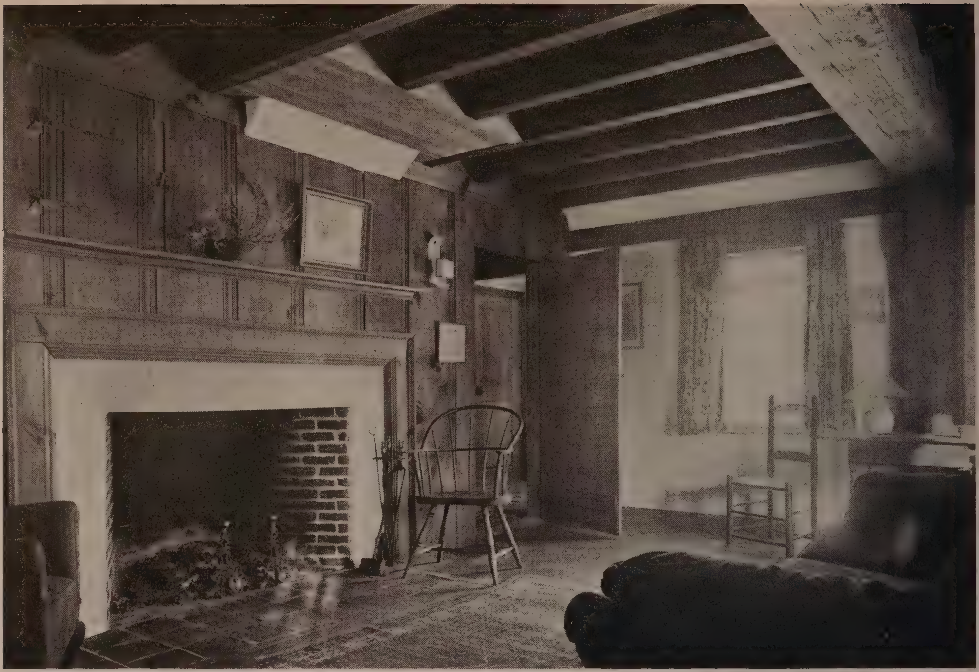
HOUSE AT NEW CAANAN, CONNECTICUT
Clark & Arms, Architects



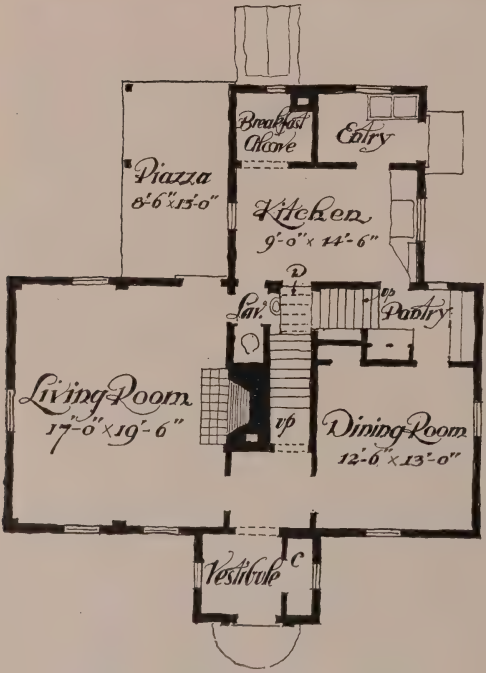
THE HIGGINS HOUSE, NEW CAANAN, CONNECTICUT
Clark & Arms, Architects



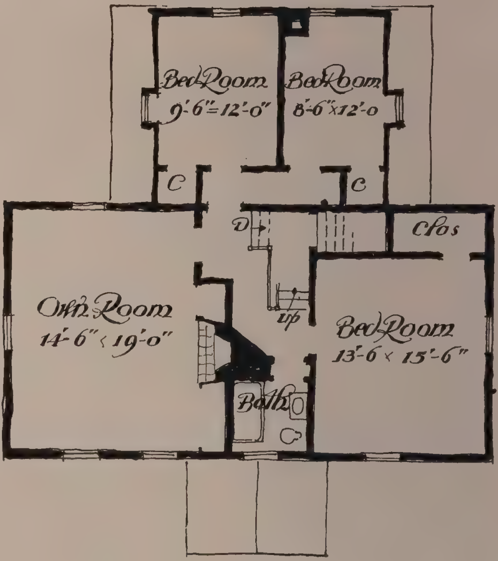
RESIDENCE OF CHARLES E. GREENE, ESQ., WINCHESTER, MASSACHUSETTS
Derby & Robinson, Architects



Living Room

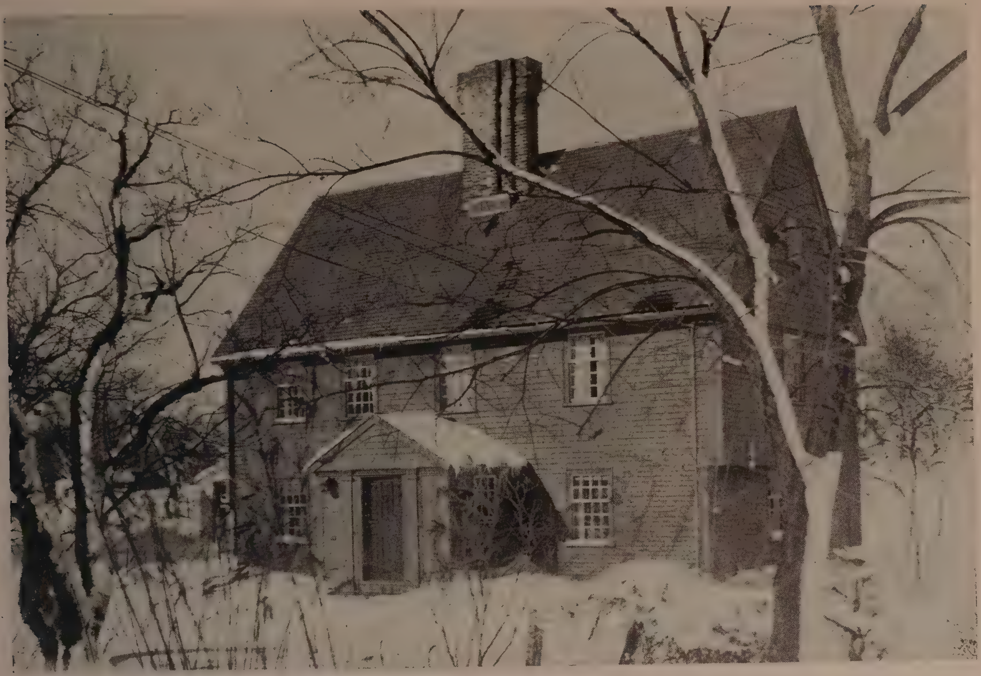


First Floor Plan

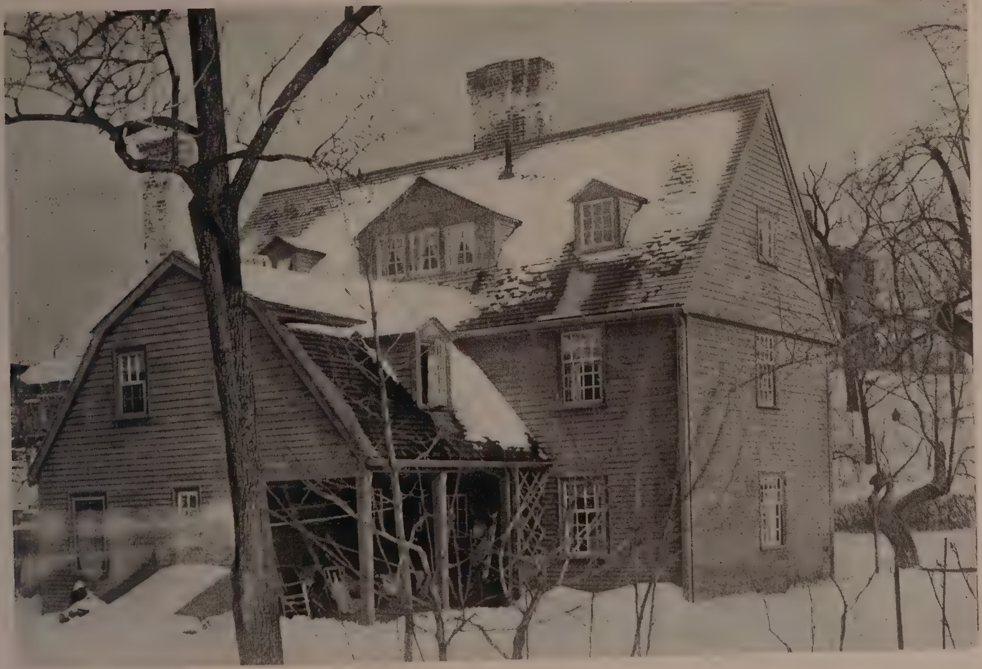


Second Floor Plan

RESIDENCE OF CHARLES E. GREENE, ESQ., WINCHESTER, MASSACHUSETTS
Derby & Robinson, Architects



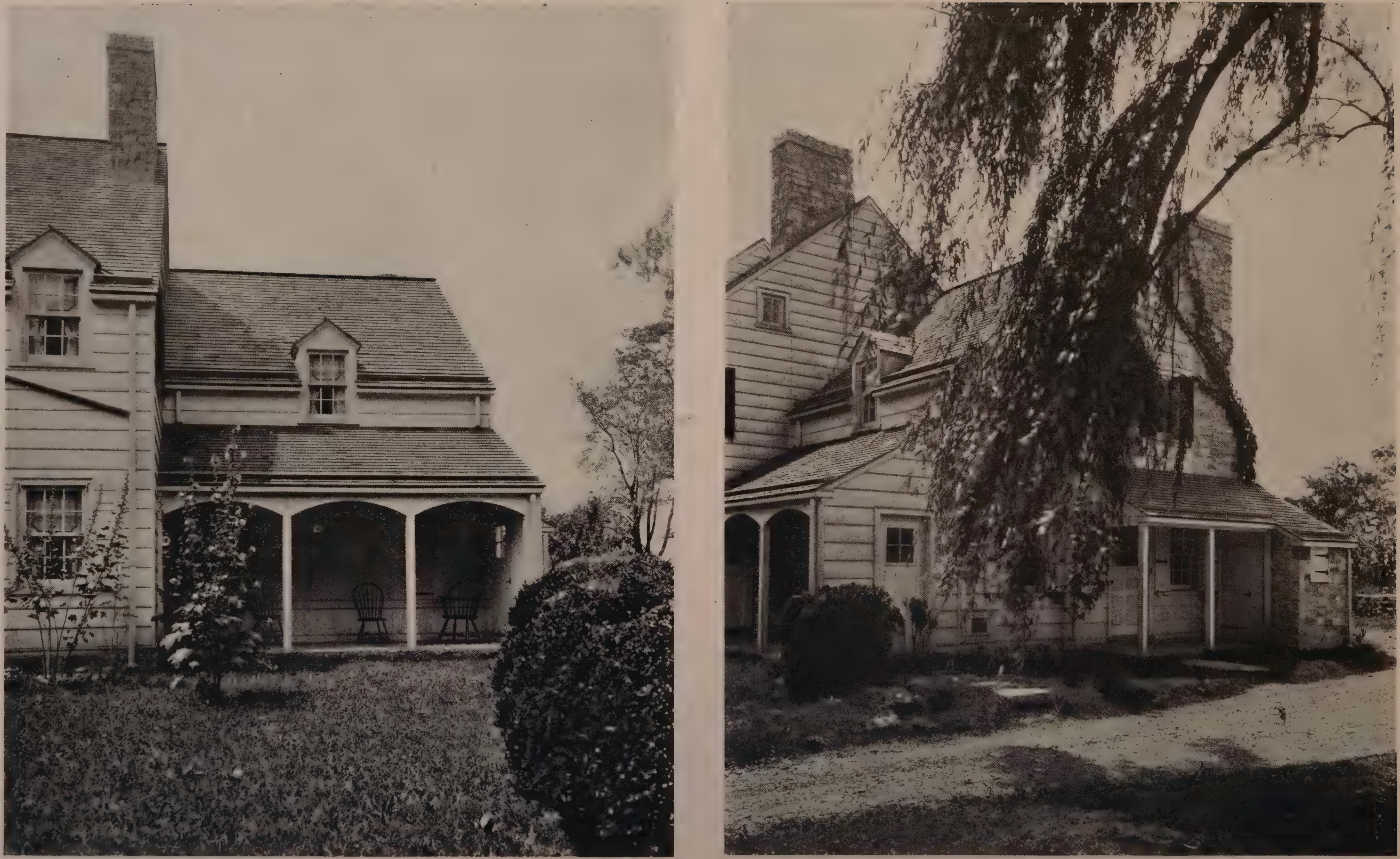
Front Elevation



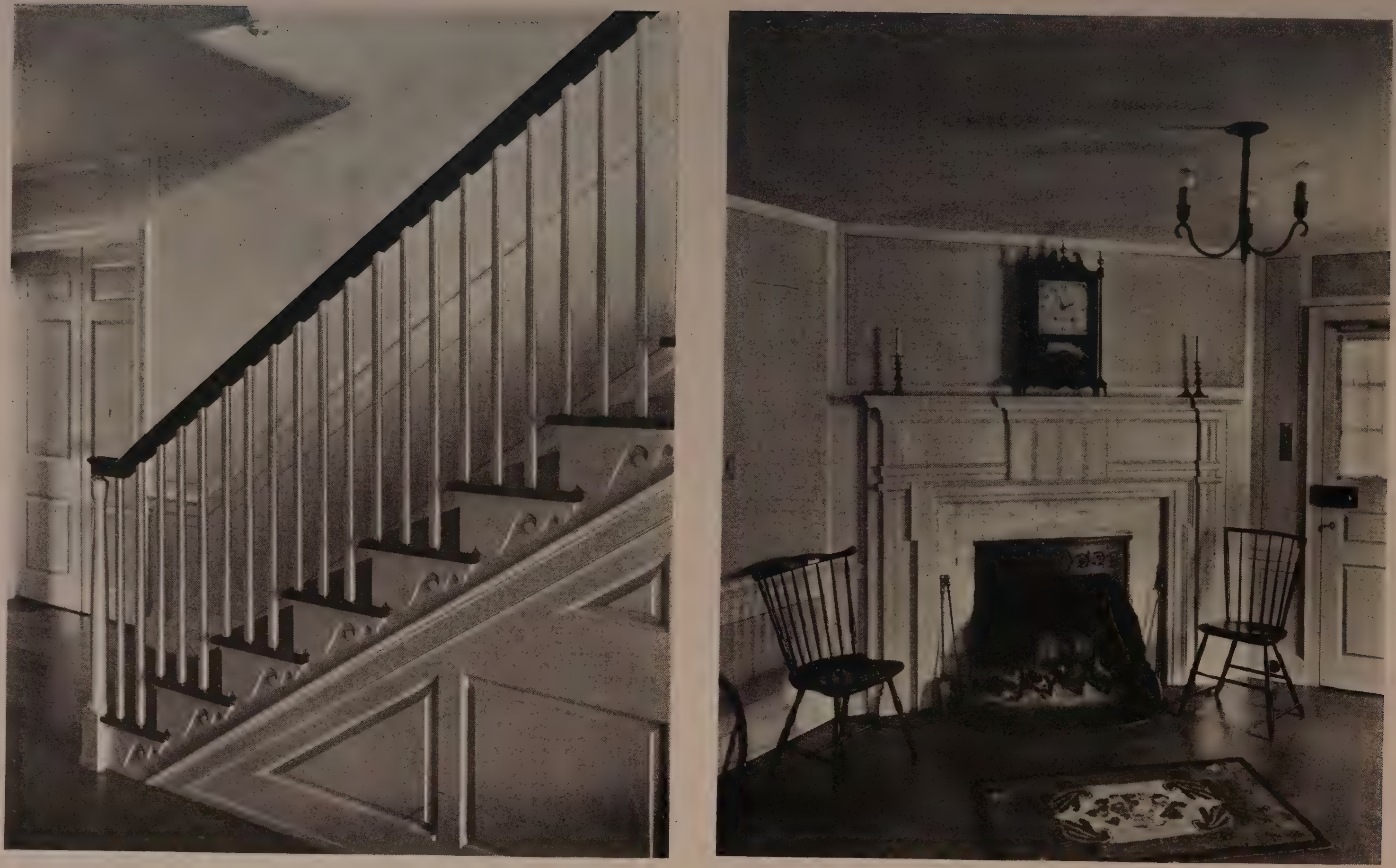
Rear Elevation

RESIDENCE OF CHARLES E. GREENE, ESQ., WINCHESTER, MASSACHUSETTS

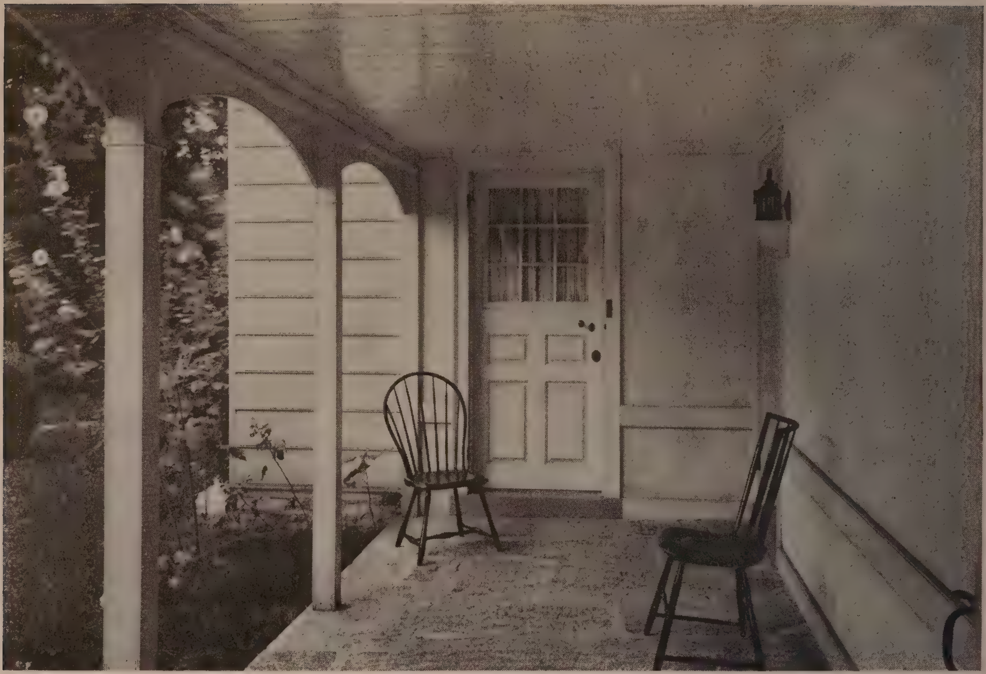
Derby & Robinson, Architects



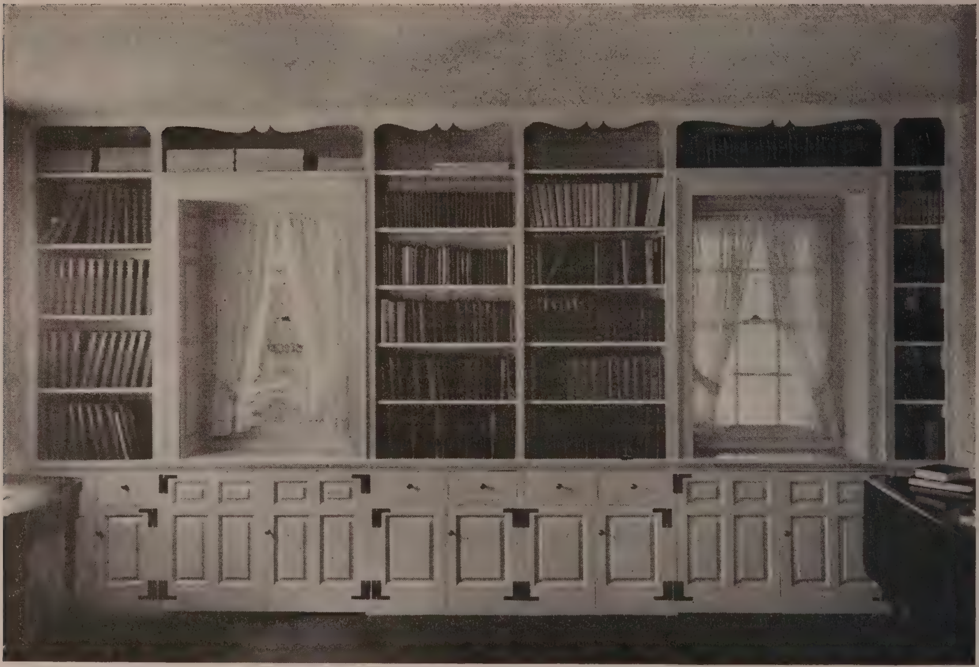
RESIDENCE OF H. H. SPANGLER, ESQ., MERCERSBURG, PENNSYLVANIA
R. Brognard Okie, Architect



RESIDENCE OF H. H. SPANGLER, ESQ., MERCERSBURG, PENNSYLVANIA
R. Brognard Okie, Architect



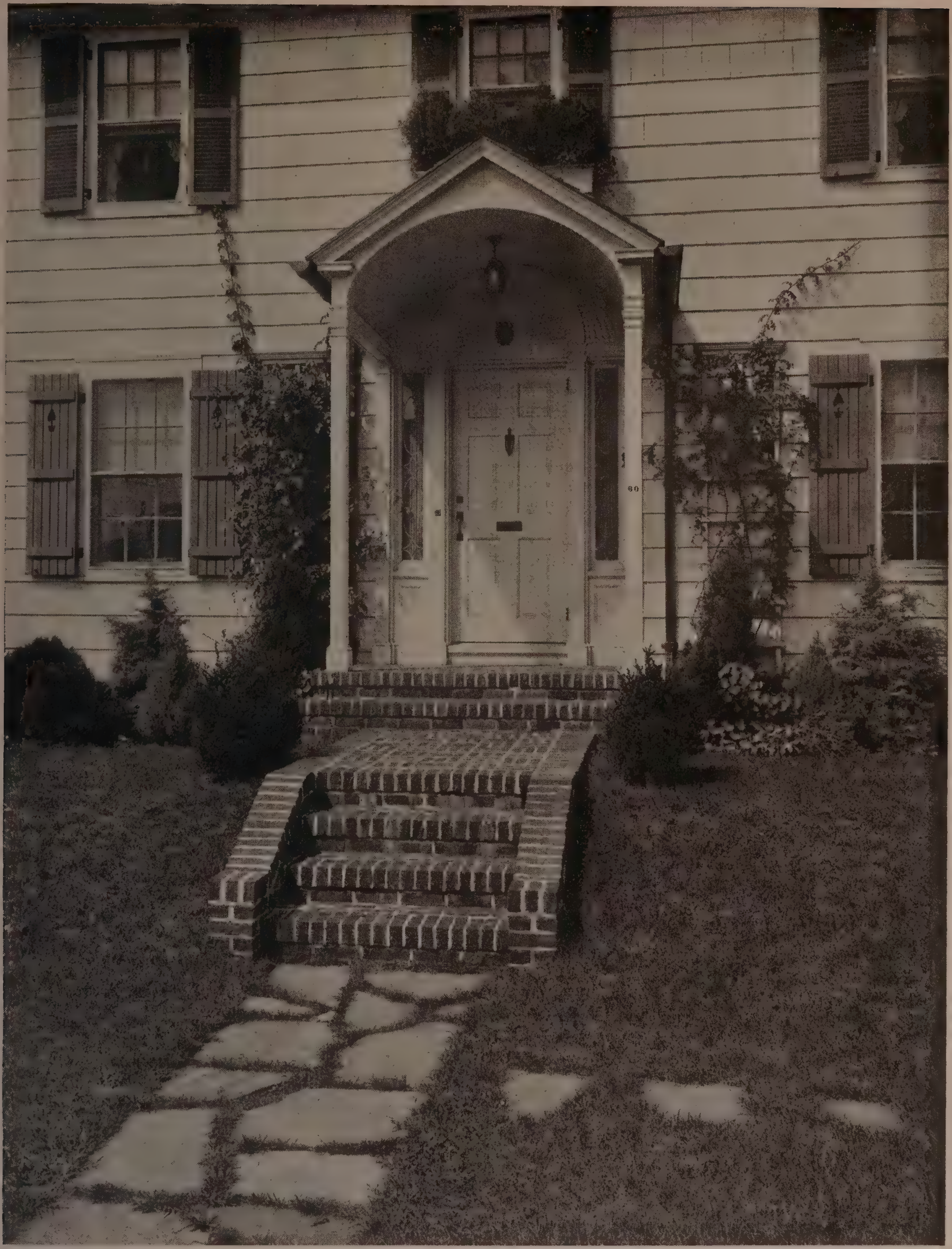
Porch



Library

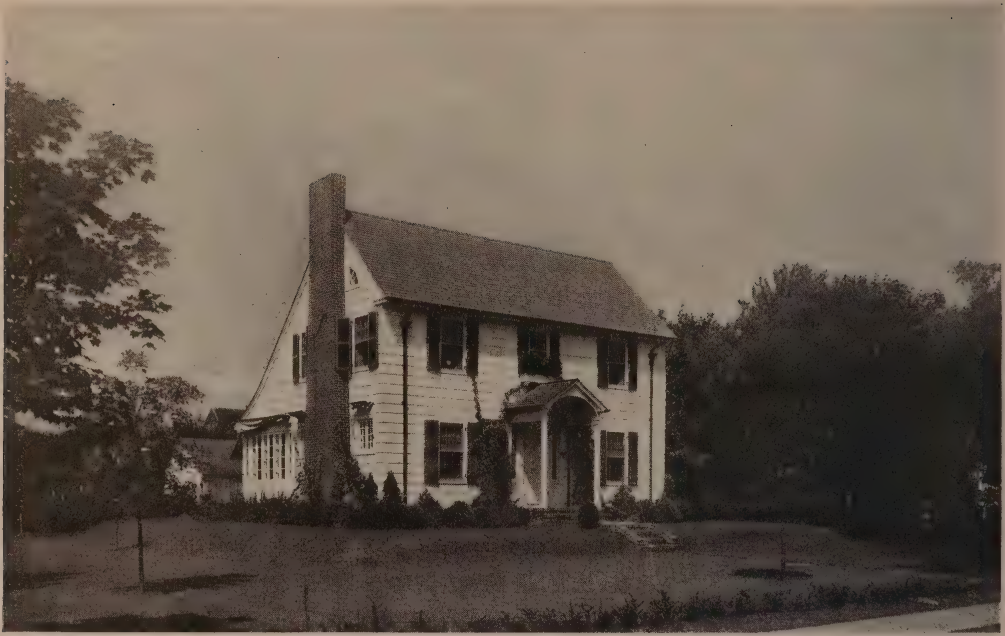
RESIDENCE OF H. H. SPANGLER, ESQ., MERCERSBURG, PENNSYLVANIA

R. Brognard Okie, Architect

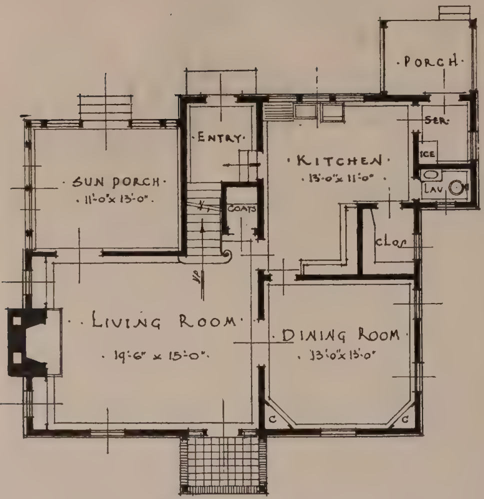


Entrance Detail

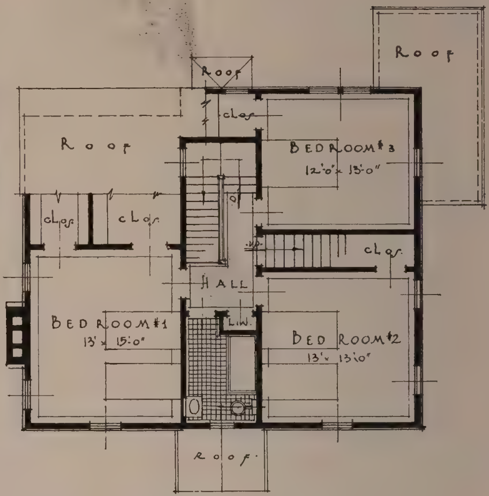
RESIDENCE OF JAMES A. TWEEDY, ESQ., BABYLON, LONG ISLAND
Charles M. Hart, Architect



Façade



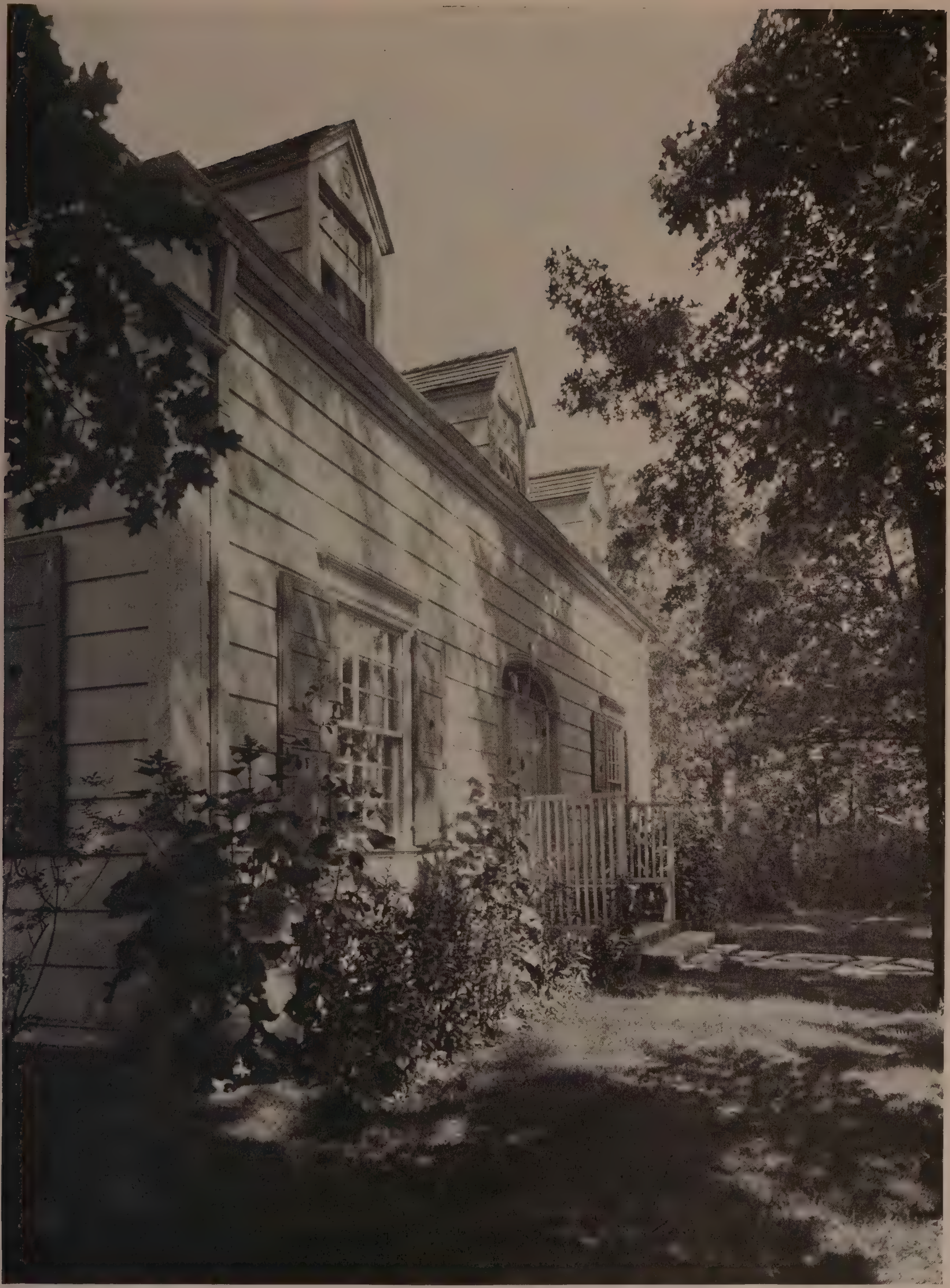
First Floor Plan



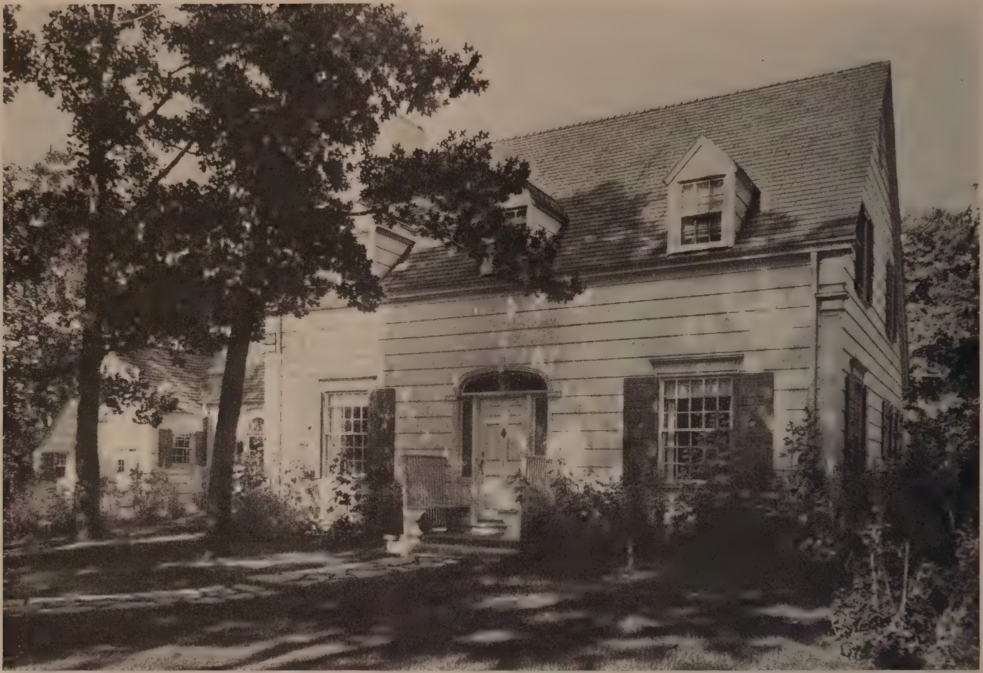
Second Floor Plan

RESIDENCE OF JAMES A. TWEEDY, ESQ., BABYLON, LONG ISLAND

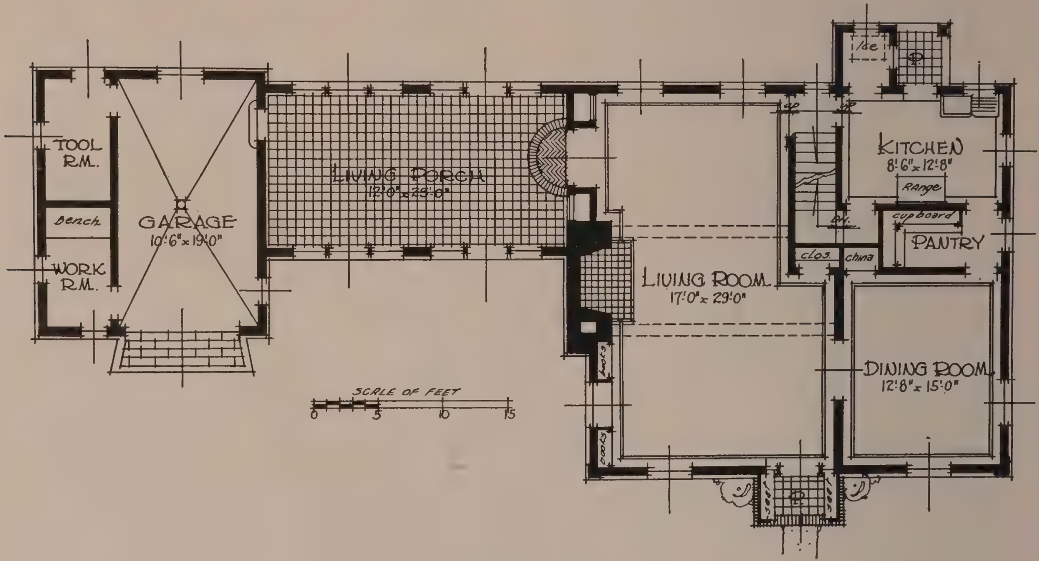
Charles M. Hart, Architect



RESIDENCE OF WALLACE GILL, ESQ., GLENCOE, ILLINOIS
R. C. Hunter & Bro., Architects

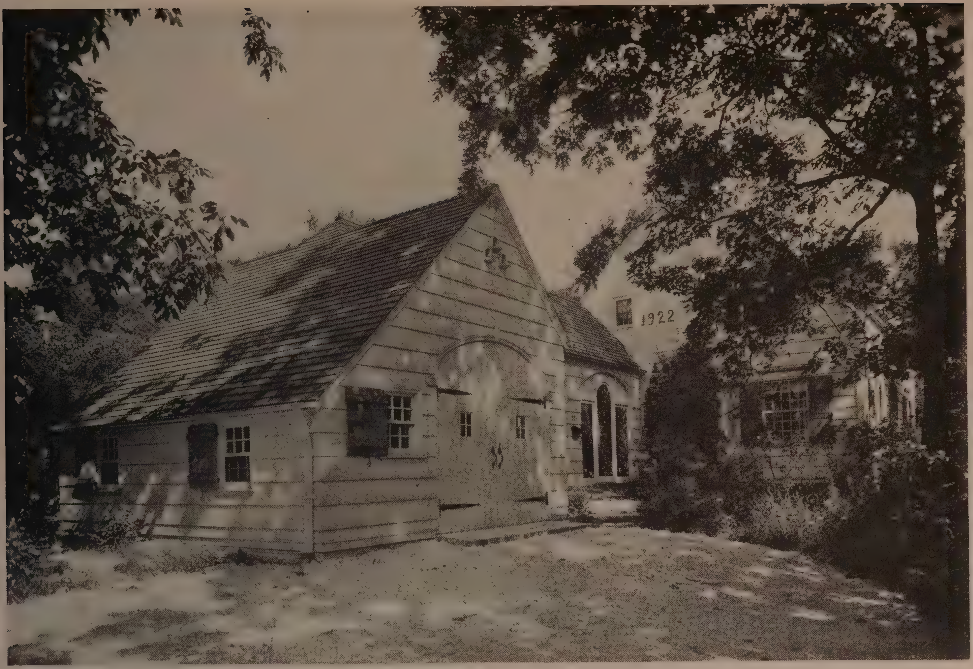


Façade

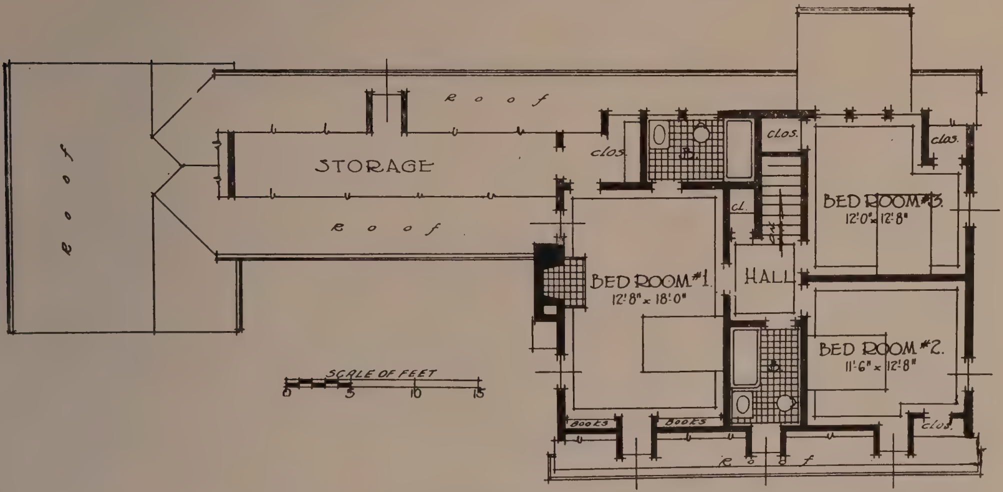


First Floor Plan

RESIDENCE OF WALLACE GILL, ESQ., GLENCOE, ILLINOIS
R. C. Hunter & Bro., Architects

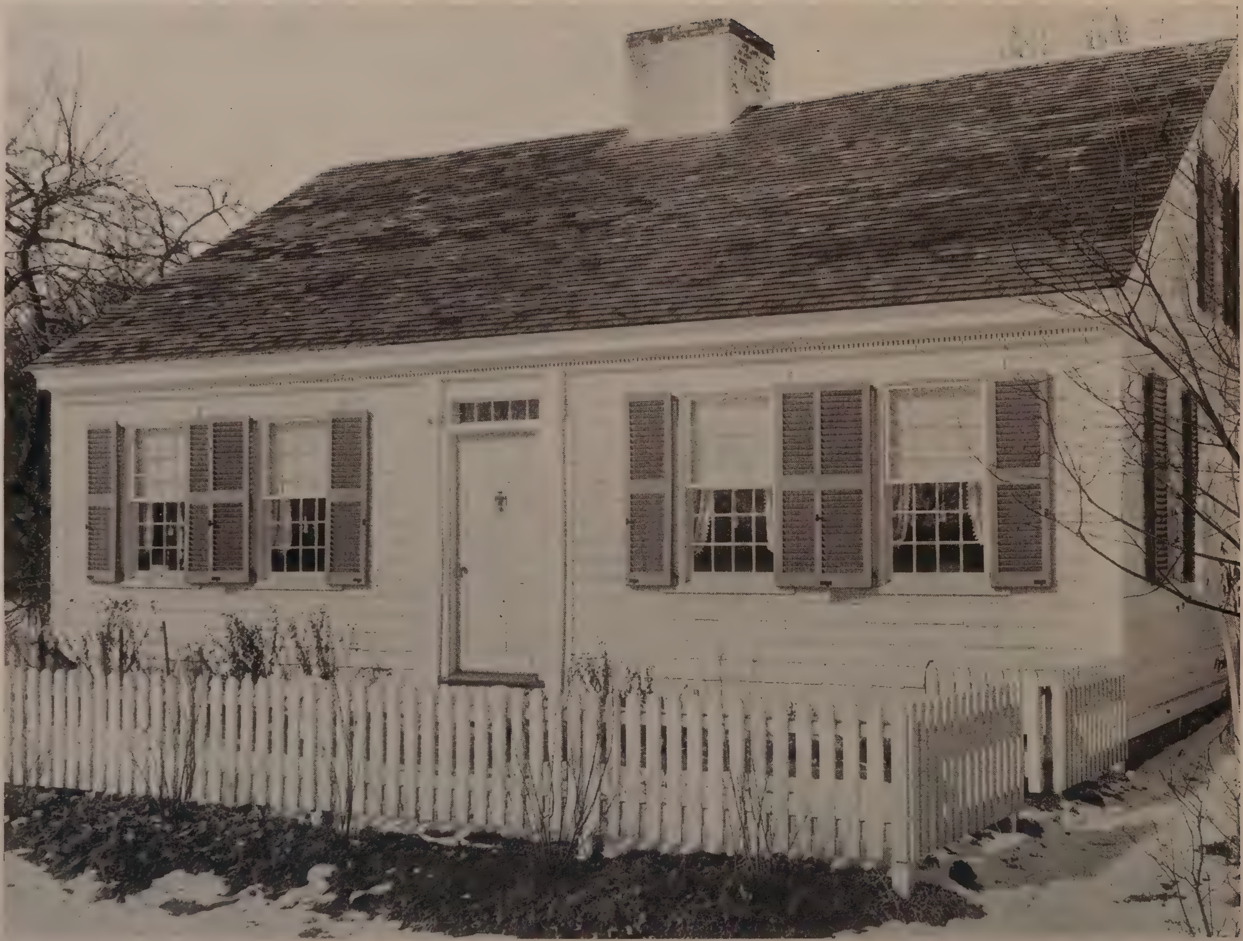


Garage

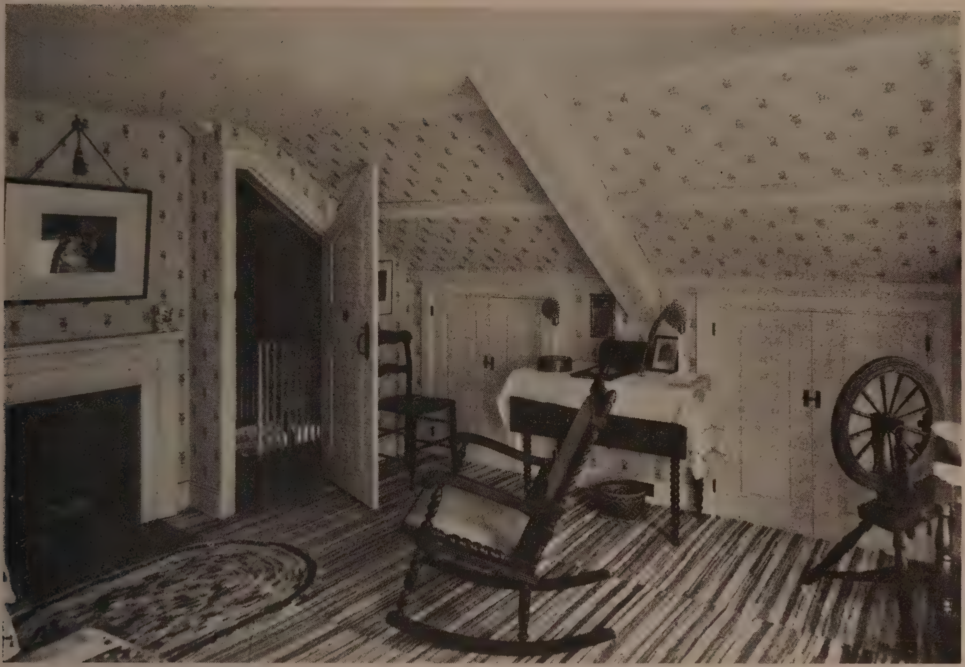


Second Floor Plan

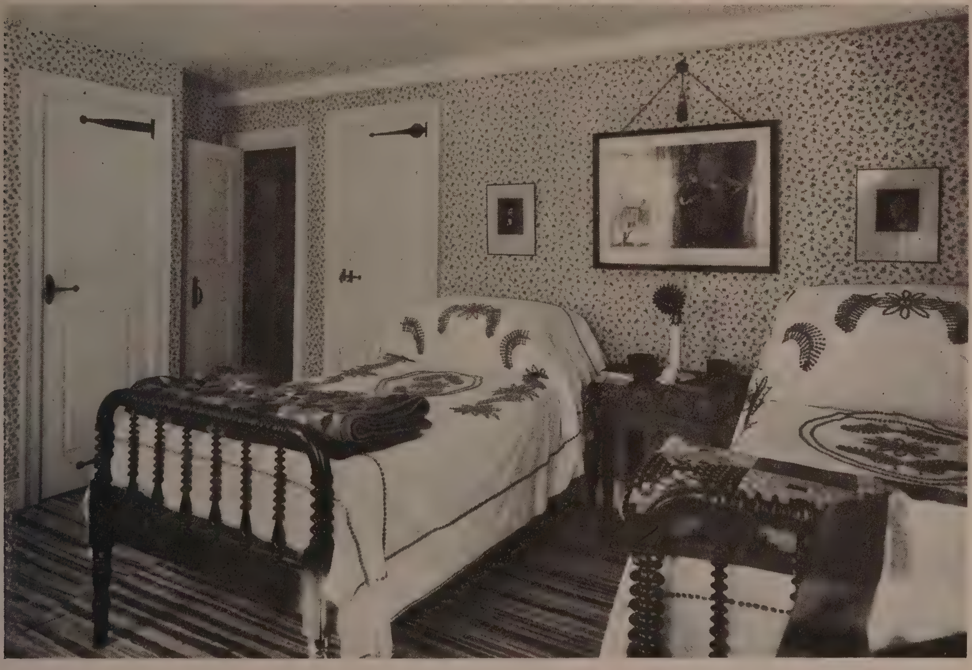
RESIDENCE OF WALLACE GILL, ESQ., GLENCOE, ILLINOIS
R. C. Hunter & Bro., Architects



"JANE'S ACRE," RESIDENCE OF E. P. MELLON, ESQ., BEDFORD, NEW YORK
E. P. Mellon, Architect



Guest Room



Owner's Bedroom

"JANE'F ACRE," RESIDENCE OF E. P. MELLON, ESQ., BEDFORD, NEW YORK

E. P. Mellon, Architect

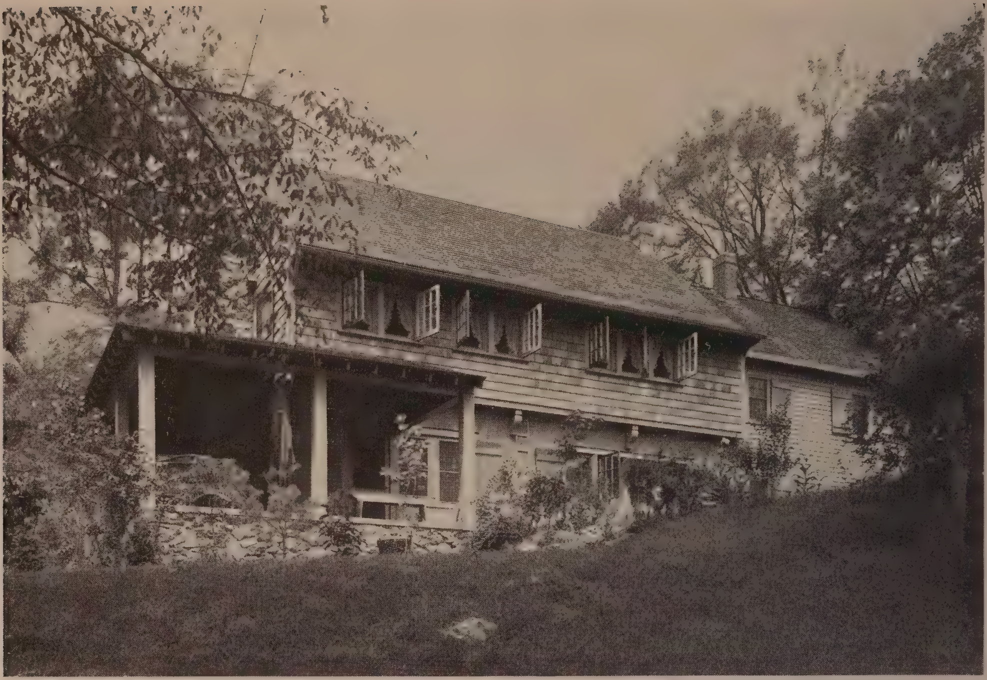


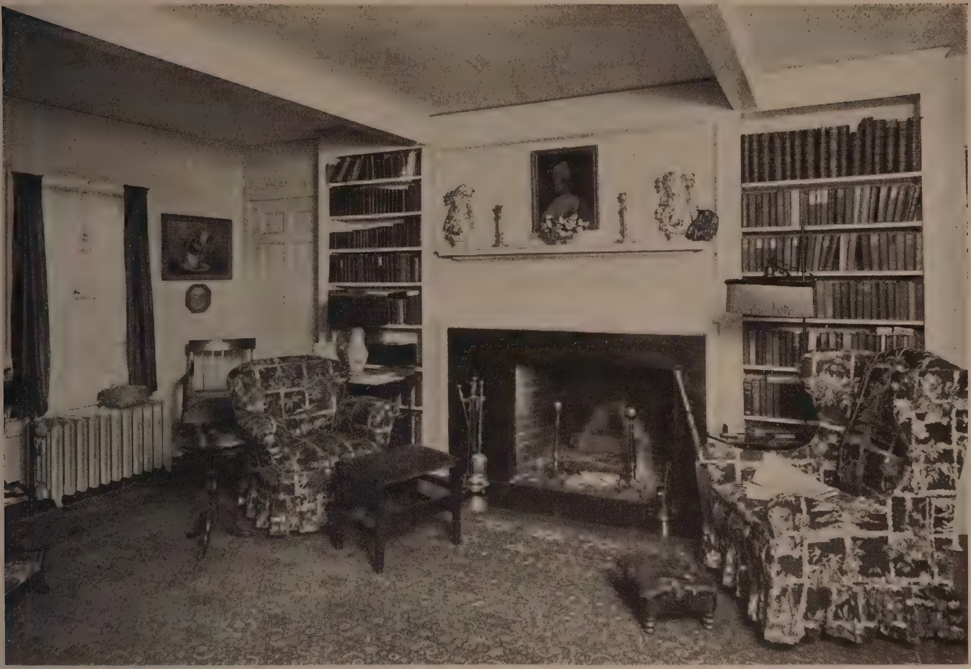
Photo by Drix Duryea

RESIDENCE OF JOHN M. HEFFRON, ESQ., GREENWICH, CONNECTICUT
Arthur C. Holden and Associates, Architects

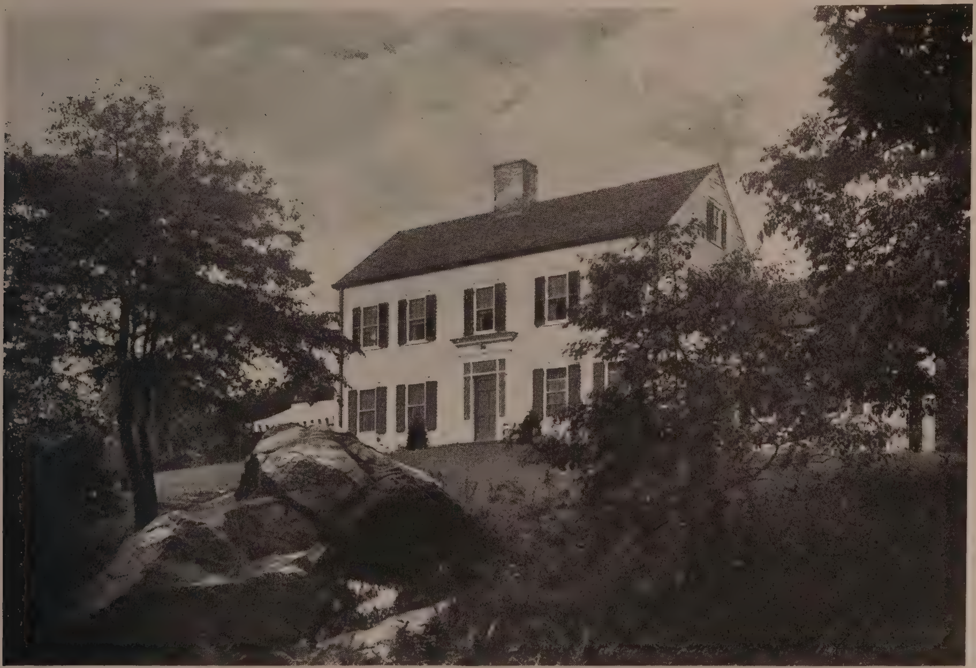
amalgamation of styles to which we have been looking to produce a strong fine architecture of our own is still in a state of flux, with a recession rather than an advance in the last year, and the study of color and texture which some years ago we confidently hoped would lead us away from the trite and stupid, has gone so far it oftentimes has become absurd. It can be remembered that some years ago the wall built of large round boulders with no mortar showing was considered a desirable feature of design; but its apparent instability was eventually felt by the discerning, and today it is disliked by the very architects who try for texture in a brick wall by using wide rough joints which let in the water, and fill the surface with protruding bats set anglewise to cast shadows. That such a wall will stand is a tribute to the quality of our cement, not to the structural sense of our architects.

The pendulum swings; after the Victorian era came that of balance, line and symmetry, of hard metallic surfaces and raw flat color. Now we are abhorring symmetry and even repudiating balance; the value of the plain surface is forgotten in a time when windows are reduced below the necessary minimum to obtain plain surfaces. And this not entirely by the great horde of imitators who follow the successful architects, and hope by aping their tricks of detail to emulate their design, but by some sober, sound and capable practitioners, men whose work needs no such specious clothing to render it presentable. It is when we consider these facts, especially as shown in our country houses, we are cast down, for the American architect has had and will continue to have, in country houses the greatest field the world has ever known.

The composite American architect has had and will have the most remarkable opportunity of any artist since the world began. His resources are tremendous. He has all the knowledge of past ages to draw upon, he has a volume of work never before equalled; where older archi-



Living Room



Photos by Drix Duryea

Façade

RESIDENCE OF JOHN H. ALLEN, ESQ., GREENWICH, CONNECTICUT

Arthur C. Holden and Associates, Architects

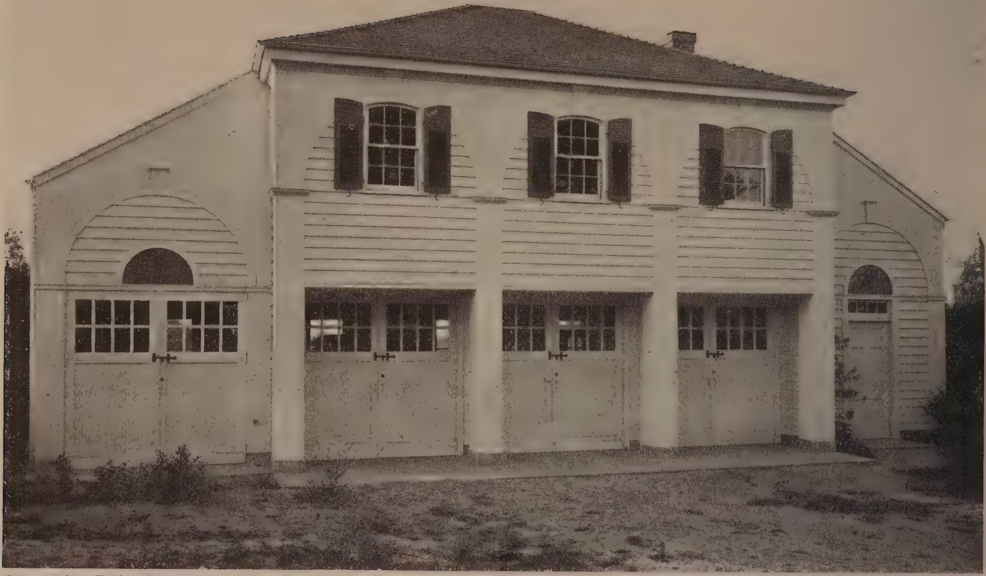


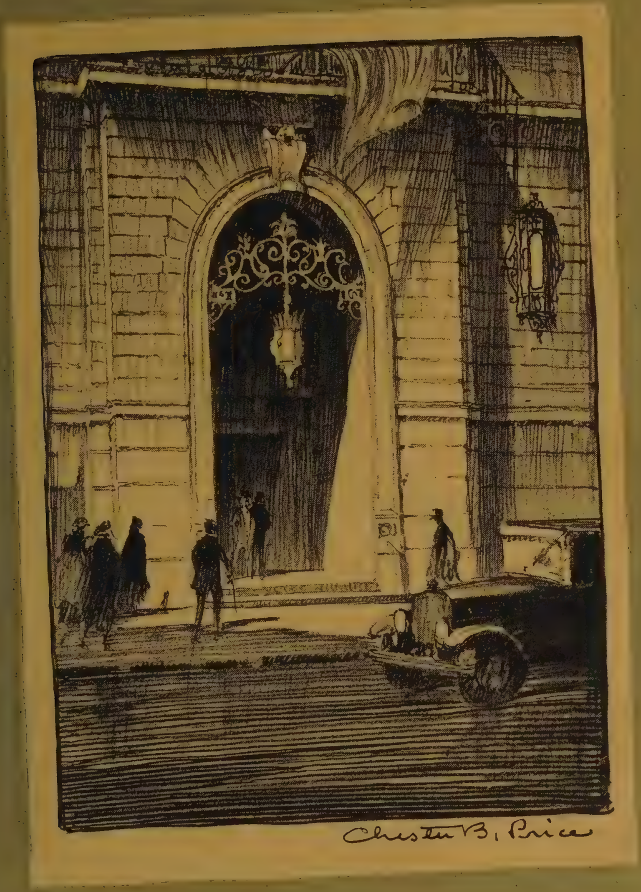
Photo by Drix Duryea

GARAGE ON ESTATE OF GEORGE D. OLDS, JR., GREAT NECK, L. I.
Arthur C. Holden and Associates, Architects

tects have had to work within the limits set by local materials, he has literally the materials of the world, both natural and manufactured, at his disposal; he has mechanics whose skill has never been excelled; and if it be true a man learns by his own failures, he has had failures enough to be as wise as the Deity. He has methods of drawing which enable him to give a far clearer picture of the work which he intends to produce than has ever before been the case; he has technical education, money enough and few limitations. Under these circumstances he should have produced the finest work the world has ever seen Has he? The answer is sadly apparent.

Yet, if we have not succeeded in proportion to our opportunities, we have at least succeeded in a large measure, as is well proven in the preceding pages. If there is nothing which for sheer beauty rivals Wolfeton House in England or Suynes in Touraine, or the Lombard villas, we have at least designed and built a multitude of small and unpretentious houses which far surpass the average of modern work outside of this country. We therefore dare to hope that our failure to measure up to our opportunities is not due to any inherent incapacity in our architects, but to some obscure factor working through the conditions which appear to favor us; and that in time, this may be met and overcome. In the meantime, we may be thankful that so many of our men are working humbly, honestly and faithfully toward the time when all our country houses will meet the requirements of everyday life and be as lovely as those in the preceding pages.

The
ARCHITECTVRAL
RECORD



DECEMBER 1924

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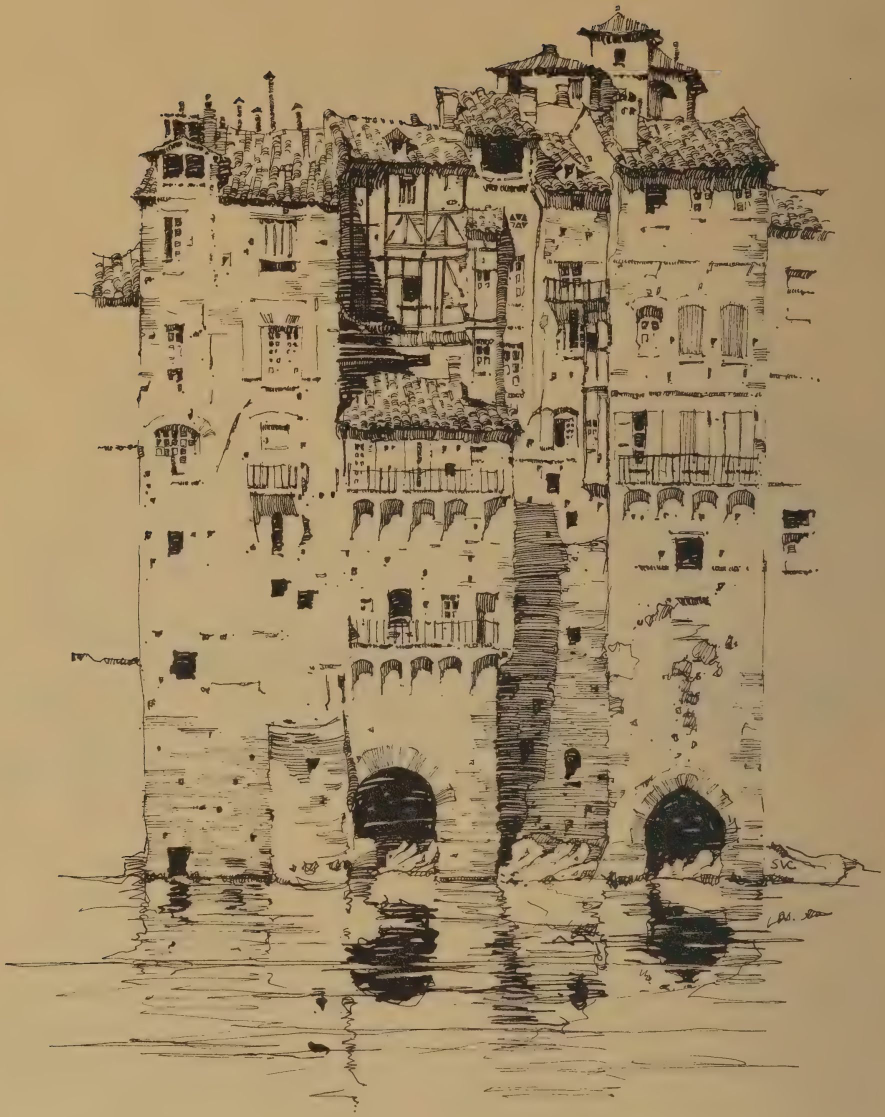

HOUSES ON THE RIVER - ALBI

The
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VOLUME 56 DECEMBER, 1924 NUMBER 6

CONCERNING CHURCH ARCHITECTURE

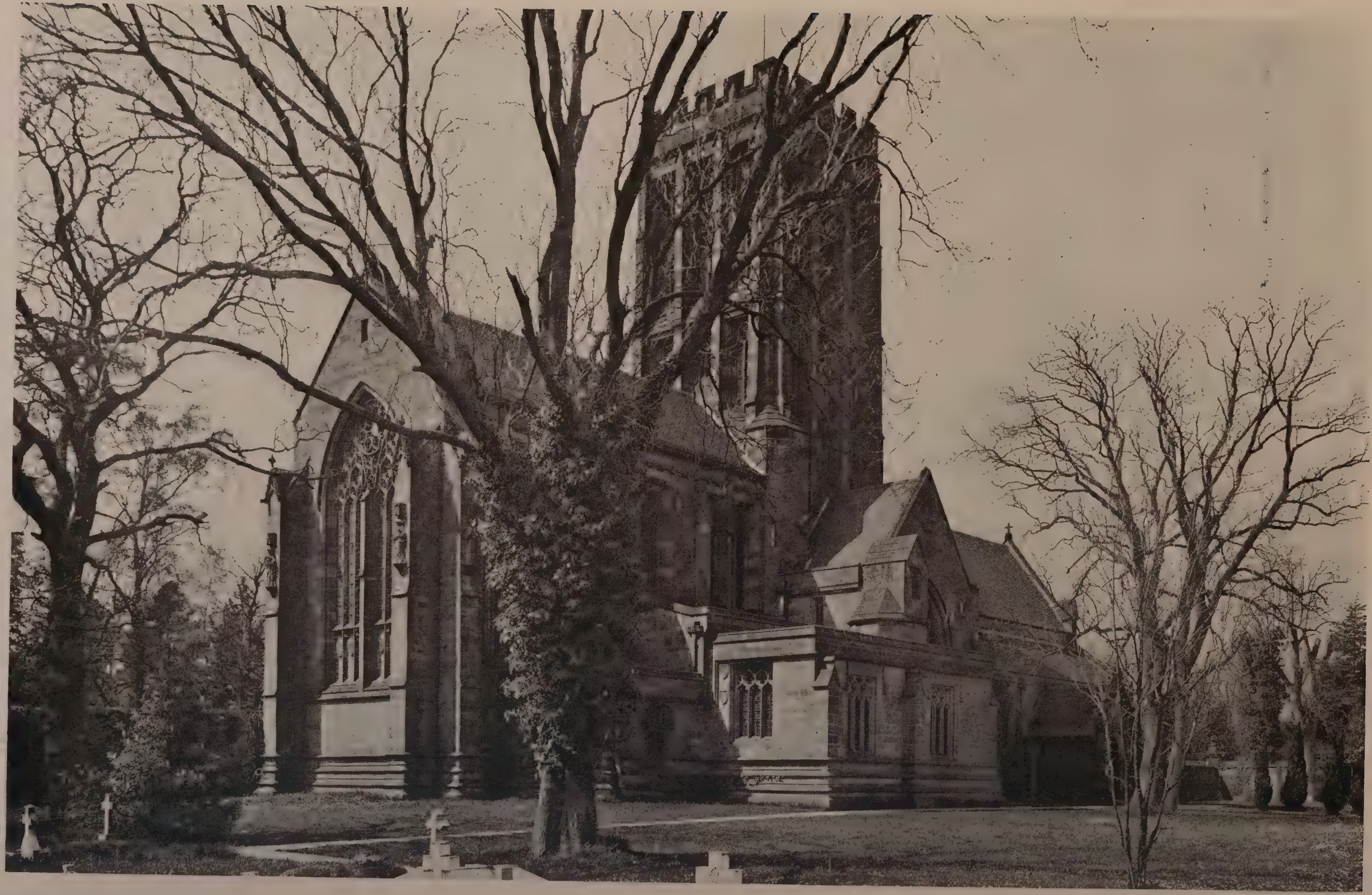
By E Donald Robb

PART I

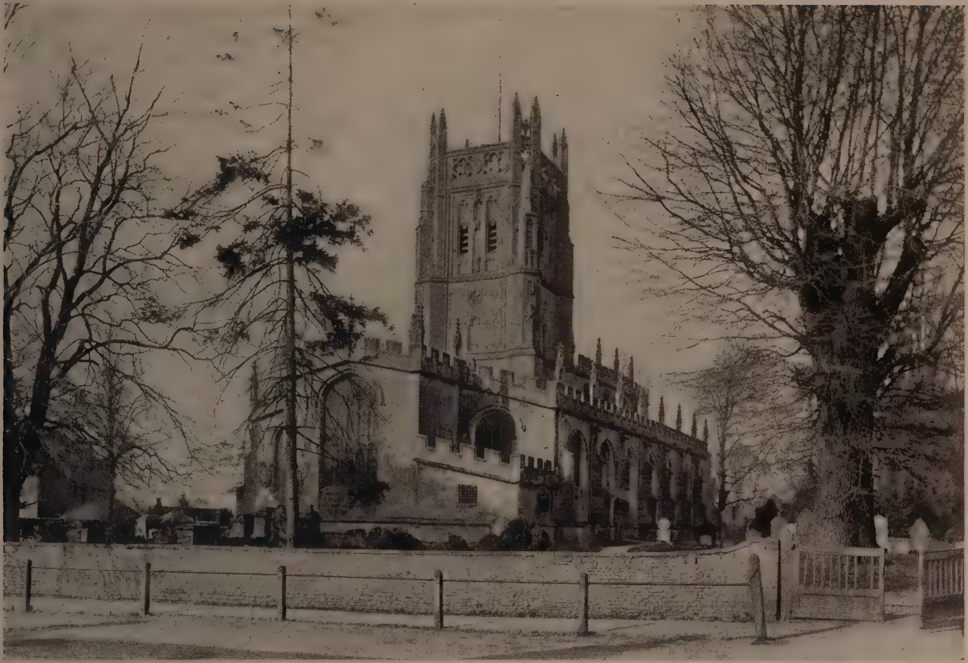
Looking through the files of The Architectural Record and its contemporaries for the past twenty or twenty-five years, one is struck by the steady and certain improvement in architectural taste. Farther back still in the last quarter of the nineteenth century, in examining illustrations of public and private buildings which at that time we thought worthy of place in our scrap books, and criticizing them from the viewpoint of the present, we gasp, "How did they do it and live." If, as experts tell us, the life of a building in lower New York is thirty years, then there are probably still practicing in that city architects who wait patiently and longingly for the death knell to sound the passing of some of their early works. New York has less to regret than other eastern cities, for example, Philadelphia, where flourished certain eccentric architects with Ideas and Ambitions to write new chapters in architectural history. In the conservative Quaker City these monuments to originality still encumber the landscape.

The magazine records tell us that progress continues to be rapid, with undoubtedly the best yet to come. It is a far cry from the Pennsylvania Station in Philadelphia to the New York terminus of that railroad; or from the Clark mansion to the Morgan Library; or St. Patrick's to St. Vincent's. Owing to a greater demand for secular buildings, and to the fact that church architecture had to be rescued from a more pitiable state of artistic depravity, as well as to the important fact that Gothic architecture is not taught in schools nor ateliers, and therefore its advocates are comparatively scarce—because of these things it is hardly to be expected that our churches today should show as high an average as secular work. If the church had maintained its original influential position in the world's affairs, it is more than probable its art would be more popular today.

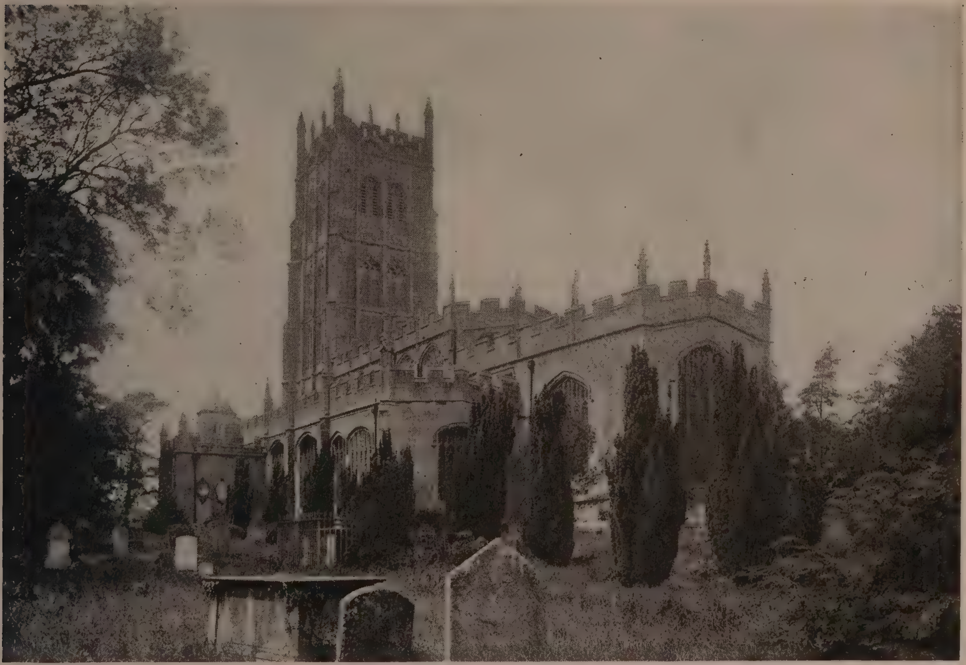
In church architecture the advance, nevertheless, has been noteworthy during the last century, although one still stops to admire the grace and beauty of Old Trinity, New York, and to wonder how



CHURCH AT HOAR CROSS, ENGLAND
G. F. Bodley, Architect



PARISH CHURCH AT FAIRFORD, ENGLAND



AN ENGLISH COUNTRY CHURCH

such a successful church could have been raised in those unenlightened times when folks still lived in blissful ignorance of jazz, static and adenoids.

For church architecture to progress it has been necessary for all the arts of the church to advance simultaneously. With artistic reform in ceremonial leading the way, church music, stained glass, metal work and altar furnishings, needlework and vestments have all felt the urge. This revival began with a wholehearted but only half intelligent return to the outward form of the earlier period work, with a schoolboy-like copying of details, but little appreciation of structural principles, and no knowledge of some of the recently discovered refinements of the style. A generation or two of this and we find the Gothic designer endeavoring to travel untrodden paths and make his details ornament structures wholly untraditional in shape and ignoble in proportion. Thinking that modern conditions demanded the semi-circular auditorium with sloping floor and corner pulpit, he was led into architectural pitfalls from which he only recently has escaped. He was led to believe, against his will, that seeing and hearing from every seat in church is a paramount necessity in a good plan, forgetting weightier matters in church design. Acoustics was discovered—one had to see and hear to worship in the right spirit. A great hue and cry was raised against the columns—"Away with the posts!" The church then became a concert and lecture hall. But return for a moment to the current magazines and see what sort of churches we now find; no longer the sloping floor, the semicircular auditorium and the corner pulpit. This type was short-lived, and it disappeared so silently and so shamefacedly that few marked its passing. The columns have reappeared, arranging themselves in solemn procession along each side, although often too close to the outer walls. One does not hear them maligned by building committees and congregations now as heretofore. The altar, pulpit, choir and organ in all sorts of denominational churches are relocating themselves into a more orderly arrangement with a view to solemnity of effect. All this without the difficulty which attended such things twenty years ago.

Restored Lady Chapel
FAIRFORD PARISH CHURCH, ENGLAND

In the denominational churches, ancient prejudices have been breaking down; and beauty in all its manifestations has been welcomed back. In the business world beauty is now regarded as a real asset, a thing to be valued in dollars and cents, and the result of this interesting discovery has been the rapid multiplication of the business palace. Whether this psychological discovery is being made use of by the churches for similar reasons is not for us to say. Possibly it is in some cases.

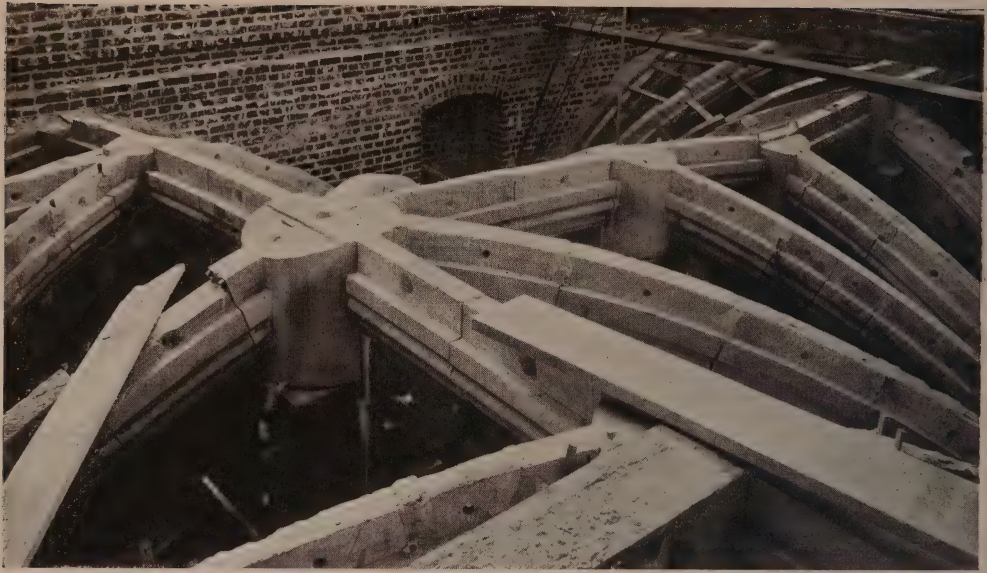
Photo by Cyril Ellis
ST. CYPRIAN'S, LONDON
J. N. Comper, Architect

External beauty is symbolic of internal beauty of soul; and the one exists in general and can only exist because of the other. The presence of external beauty in music, ritual, scripture language, painted windows, architecture, induces a state of mind upon which beauty of an internal sort can react; and art thus becomes the handmaid of religion. If, however, art essays to usurp the place of religion in the church, it is well to banish it and begin all over again with the meeting house. This is what happened in the days of the Reformation, and possibly was one of the most important reasons for the wreckage among the churches, abbeys and cathedrals in England. The glorious windows ground into powder under the heel of the reformer, reredoses despoiled of their statues, beautiful carved and painted screens hacked and broken, noble abbey churches left in ruins—all tell of the public indignation against art elevated to dangerous heights and worshipped for its own sake. Art is a good servant, one of the best, but a dangerous and autocratic, albeit interesting mistress.

"Art for art's sake" may not be so reprehensible a slogan when applied to any but religious art; and architects who have ideas to express by means of their art may indulge themselves to their heart's content provided their activities are restricted to secular architecture. The church is no place for self expression—self *sup*pression is the Gothic way;—no place for a display of ego—no place to experiment with architectural stunts. The best churches are not the clever ones. The clever churches amuse the architects (for a while), but the general public is unimpressed by novelty. The unprofessional observer is moved, unconsciously, by proportion, scale and lighting effects, and the latter is of no small consequence.

Too great a departure from the traditional seldom meets with success in church design; even the genius of a Goodhue is not always a guarantee against failure. A church may be architecturally interesting and highly successful as an academic problem, but so brimful of the personality and spirit of the designer, that there is no room for that Spirit whose Presence should be felt by all; and that Presence cannot be felt by

Photo by Cyril Ellis
CHURCH OF THE ANNUNCIATION, LONDON
Walter Tapper, Architect



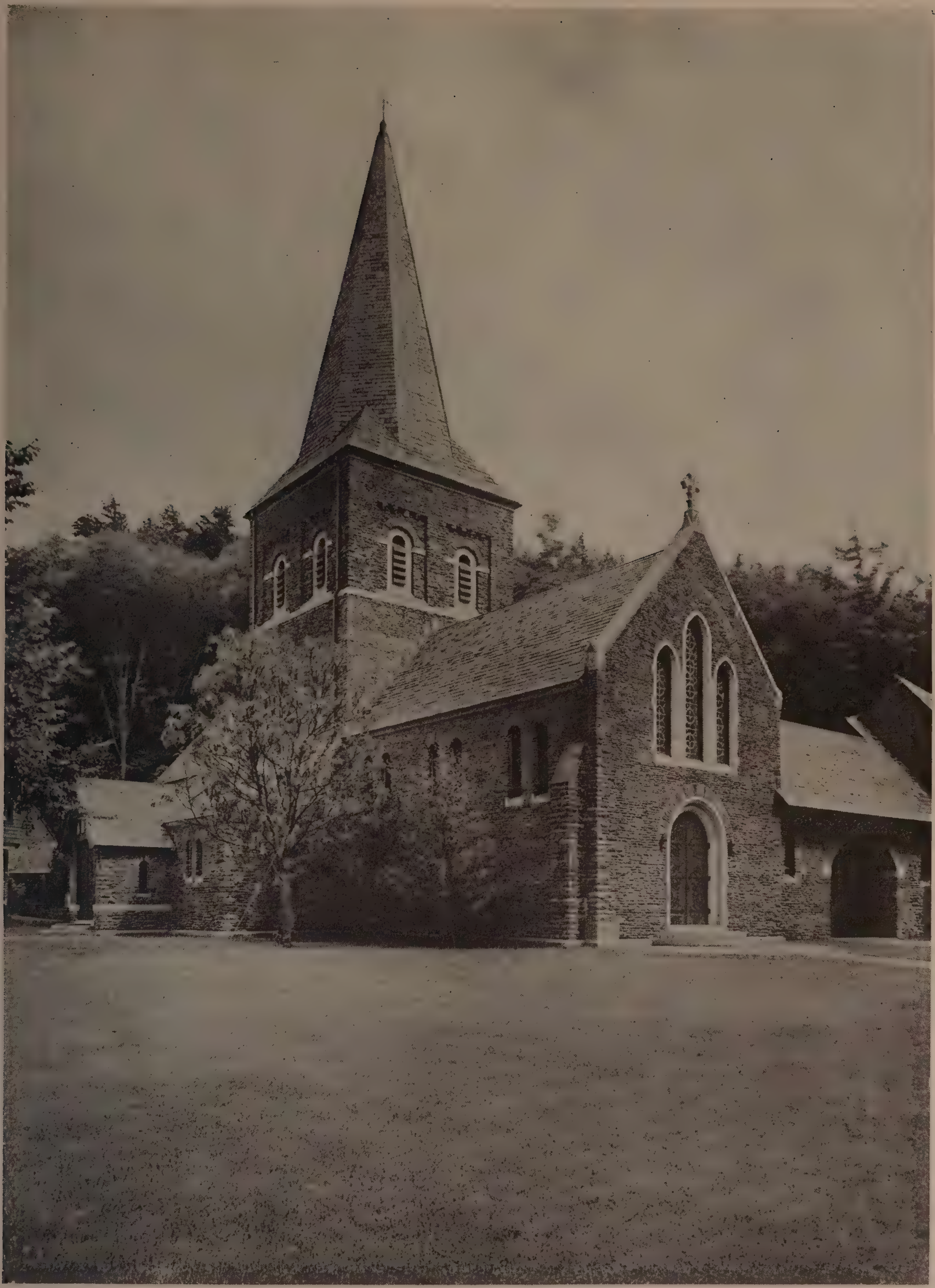
VAULTING OVER CHOIR AISLES—WASHINGTON CATHEDRAL, WASHINGTON, D. C.
Frohman, Robb & Little, Architects
Cram & Ferguson, Consulting Architects

all, or any, unless it is first felt by the architect.

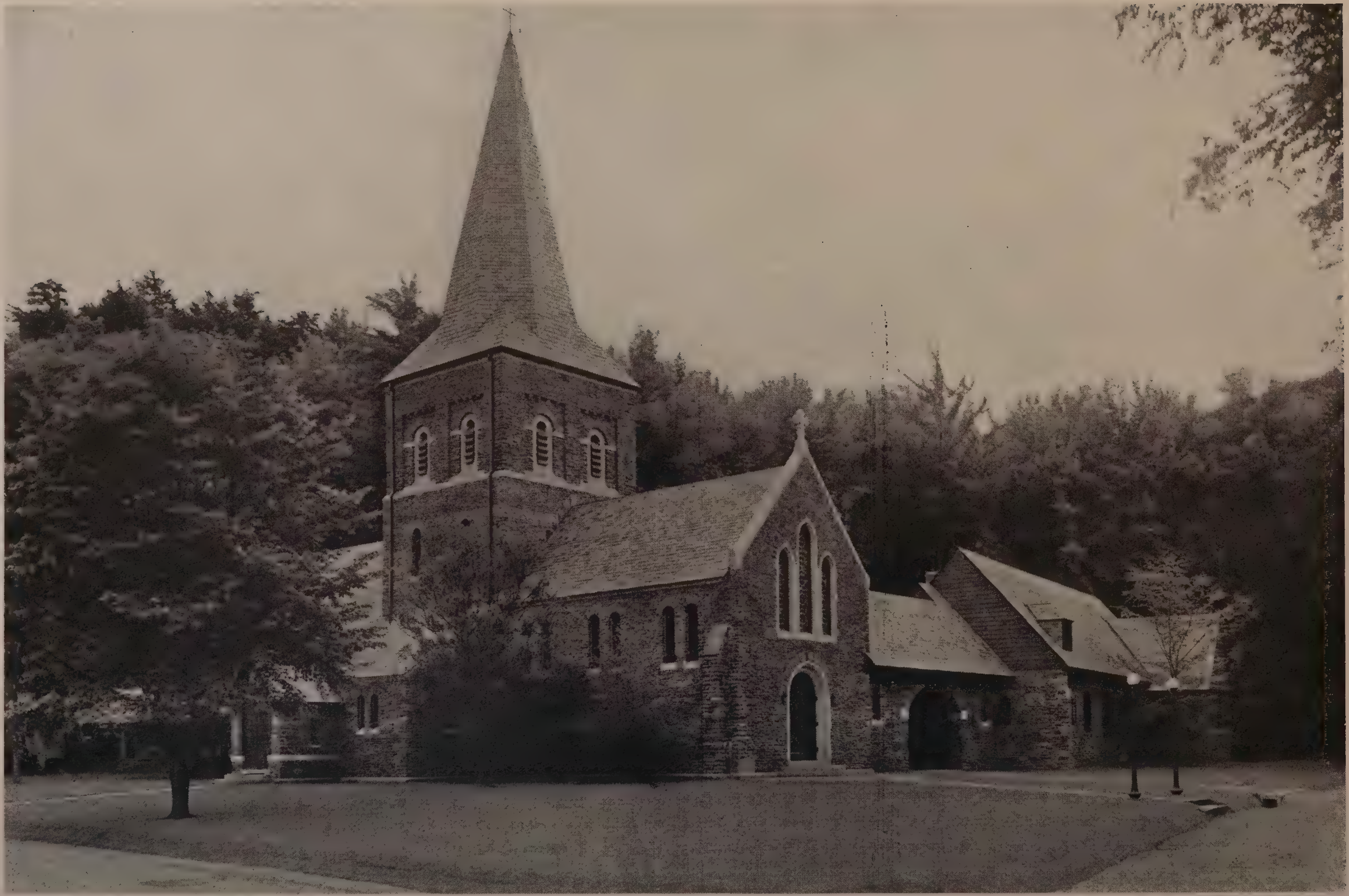
The problem of the church involves matters which do not occur in other classes of buildings: for example, the creation of an atmosphere to stir the devotional spirit. This is the problem of problems in church design and, being a matter of great subtlety, it is difficult to lay down guiding rules. Furthermore, while a bank building, to be an architectural success, has but to contain conveniently arranged space for employees and public, a system of protective locks and a façade done in whatever phase of the Romanesque or Renaissance happens to be popular in the best offices—a church to be a success, whatever the architectural style, must possess that indescribable something which induces worship even in those not easily stirred. No matter how well proportioned, how well detailed or how well executed a church building may be, if it does not possess this quality it is not a successful church; and it is in this one particular that most of our churches fail.

It is difficult to describe this elusive quality; how to put our finger on it, how to secure it for the contemplated building. It is inherent in the architect's attitude toward his work. He must become like one of the nameless builders of the 13th century in England or France, living and working with a purpose above the acquisition of fame or fortune. And this applies to the various craftsmen, from the humblest workman to the officiating priest. Wherever the commercial spirit has governed the production of the work, there will be a positive blemish in the final result. Therefore none but the highest type craftsmen should be permitted to assist in the work.

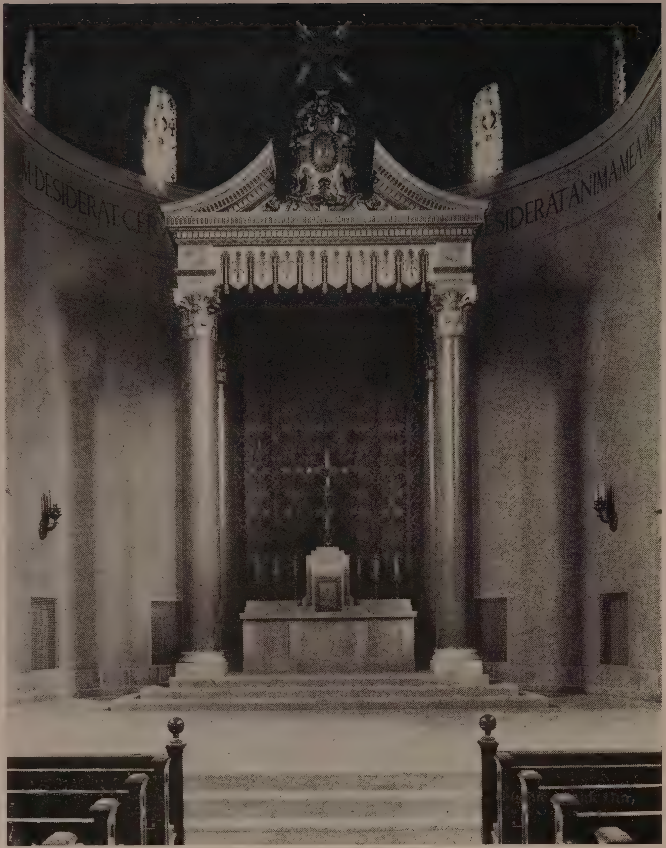
The churches built by the late Henry Vaughan, considered dry by many of his fellow architects, show a beautiful self-restraint for the sake of the general good which never fails to move to worship. This is a form of sacrifice which is an act of worship in itself. It is the spirit in which Vaughan worked, plus his adherence to an historical type which time had accepted as a harmonious setting for the religious service, which makes his churches so satisfying in their way. He had little appreciation of craftsmanship and almost no sense of color, hence his

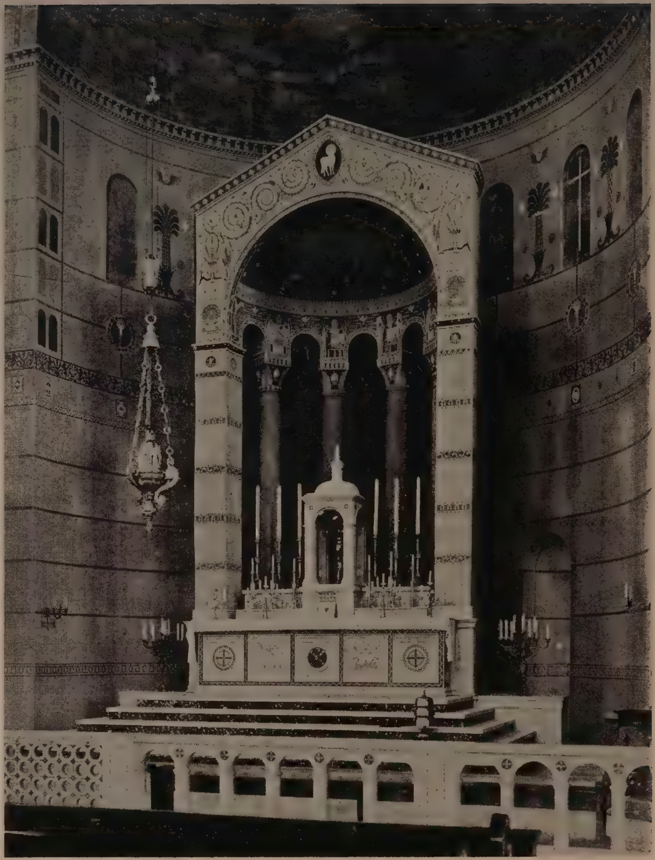


ST. JAMES' CHURCH, LAKE DELAWARE, NEW YORK
Cram & Ferguson, Architects



ST. JAMES', CHURCH, LAKE DELAWARE, NEW YORK
Cram & Ferguson, Architects

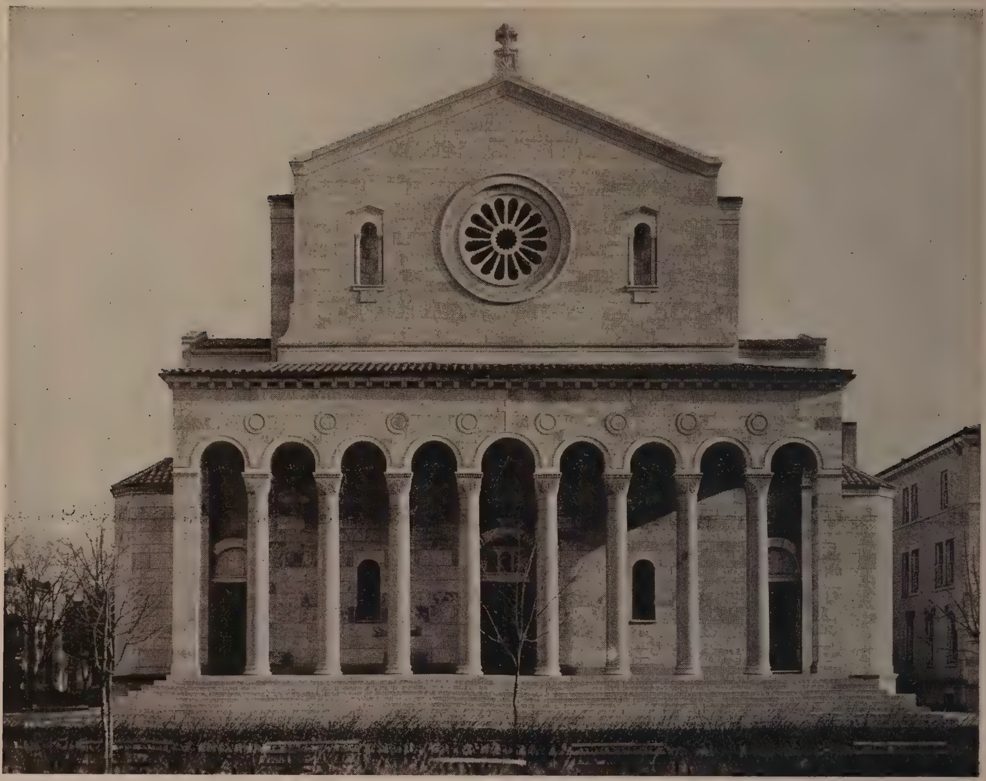




Details of Altars and Baldachinos

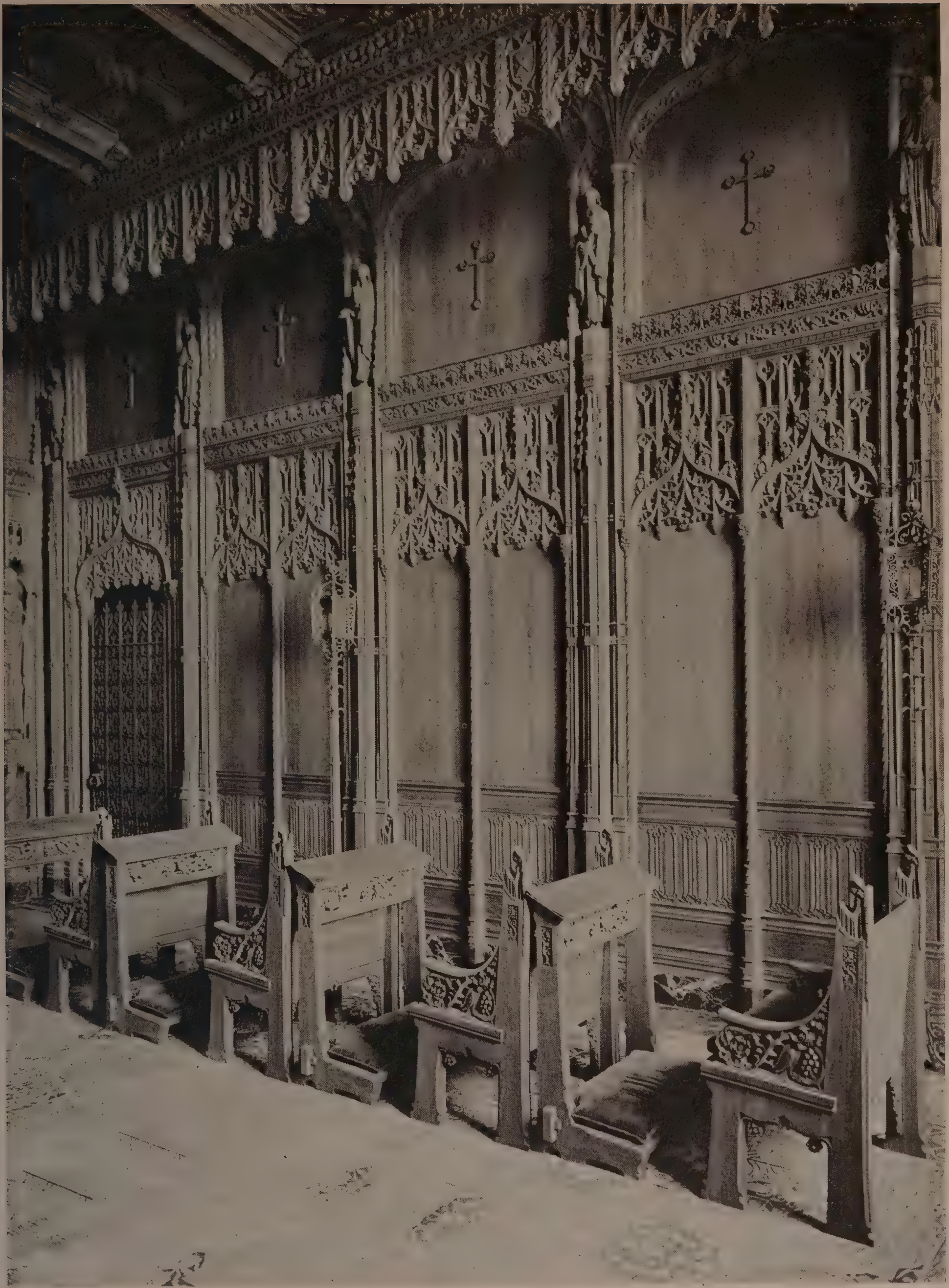
HOLY CROSS CHAPEL, HOLY CROSS COLLEGE
WORCESTER, MASSACHUSETTS
Maginnis & Walsh, Architects

SACRED HEART CHURCH, WASHINGTON, D. C.
Murphy & Olmsted, Architects
Maginnis & Walsh, Associate Architects

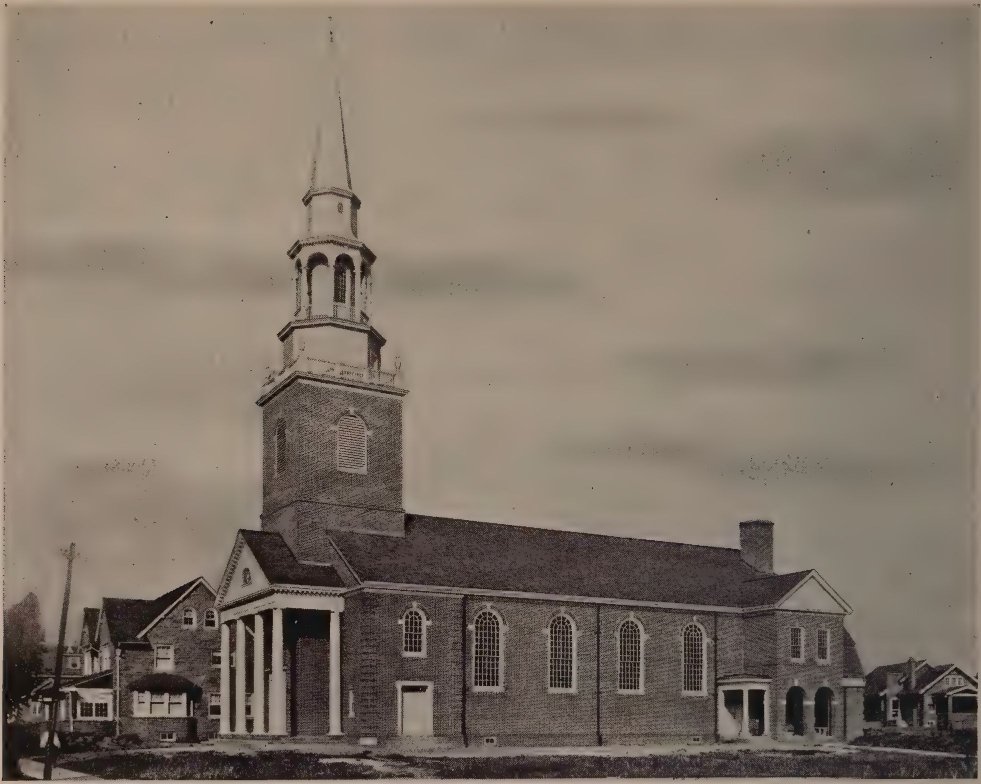


Main Façade
SACRED HEART CHURCH, WASHINGTON, D. C.
Murphy & Olmsted, Architects
Maginnis & Walsh, Associate Architects

work falls far short of that of his great preceptor, Dr. G. F. Bodley, who caught the real spirit of the art of church design and passed it on in its perfection in his Church of the Holy Angels at Hoar Cross. In this small but extremely complete church, proportion, scale, lighting, craftsmanship and color unite to produce one of the finest churches of ancient or modern times. Since Bodley's day, English church architects have been striving for novel effects, hopeless of excelling that master. Many of the English churches are excellent compared with contemporaneous work in this country, while many are more conducive to mirth than to reverence. In some others, proportion has been sacrificed to novelty; but they all show qualities which ours of the same period do not, conspicuous among which is a solidity of construction due in some measure to the laws of the Incorporated Church Building Society governing thickness of walls and such matters; and also resulting from a universal avoidance of veneered steel skeleton construction for church work; which brings us face to face with that moot question—why should we not employ the most up-to-date methods of building construction in our churches even to the extent of using the rat-trap-and-bird-cage type so familiar in our commercial buildings? Why should we not resort to the use of steel to support a tower whose walls might clutter the first floor plan if carried down in the regular way? What is wrong with a sky-hung clerestory, or a buttress that delivers its thrust on a lally column? These things would not have been done in the days of Ictinus or Wiliam of Sens.

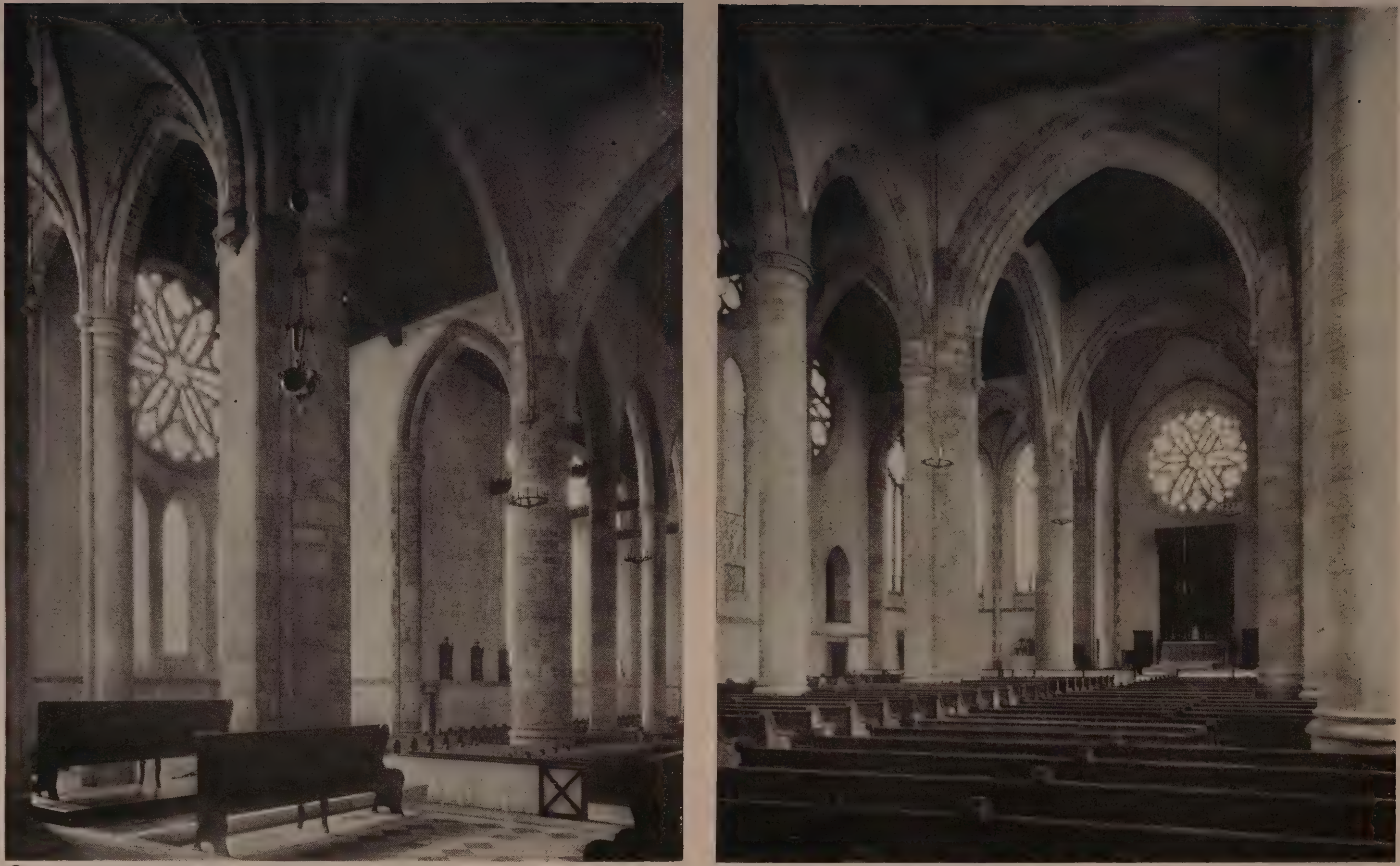


PRIVATE CHAPEL OF MRS. NICHOLAS F. BRADY, ROSLYN, LONG ISLAND
Maginnis & Walsh, Architects



FIRST PRESBYTERIAN CHURCH, CHESTER, PENNSYLVANIA
Frohman, Robb & Little and Clarence W. Brazer, Architects

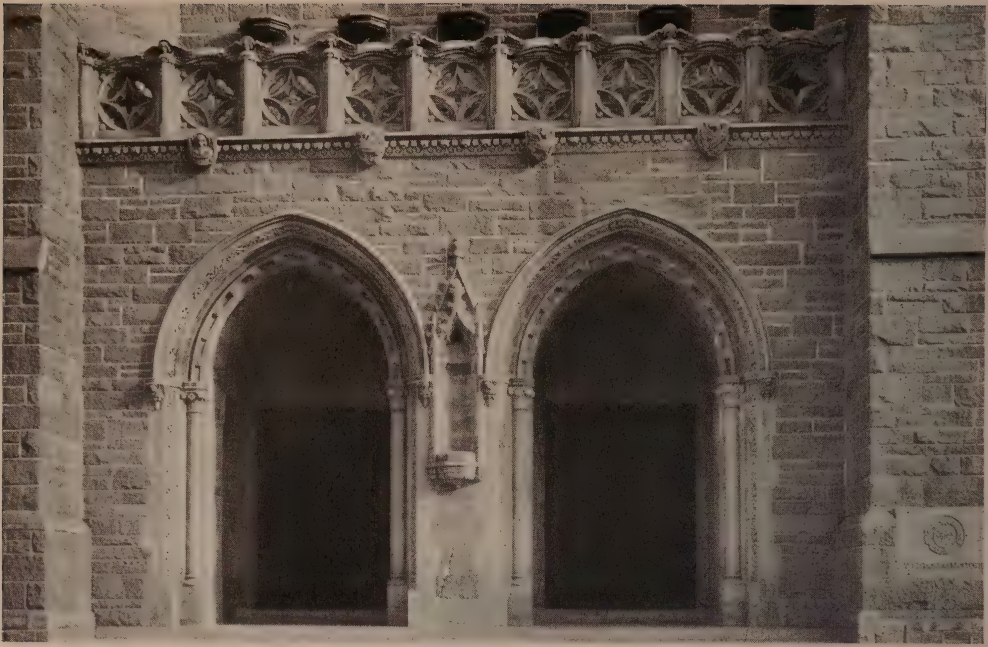
The American skyscraper, although an ingenious and permissible solution of a decidedly modern problem, should not be regarded as a serious architectural affair. Predestined to a brief existence, the office building cannot be given a place in that steady stream of architectural progress beginning in the dim and distant past, and demanding always as a prerequisite, a complete and harmonious marriage of the structural and artistic elements. The pyramids, the Greek temples, the Roman basilicas, the Gothic cathedrals, the Tudor timbered houses and the early American homesteads, tell truthful stories of structural problems solved in purely architectural ways. The skyscraper on the other hand, is but an illegitimate child of the engineer. Let the office buildings perish after thirty years or more, but let the construction used in the church be indicative of the permanence of that institution. Build with frankness and honesty. Give the columns, arches and buttresses a chance to function. In a completely organized Gothic structure one can almost see the stresses and strains coursing their way through from airy vault to solid earth, like the life blood swelling the muscles of the athlete. Let us play this game earnestly, honestly and well. In running the course of the bases step squarely in the middle of each bag, and take no short cuts when the umpire isn't looking. Let the first base stand for a straightforward and workable plan, suited to its needs and uses. Step on it fair and square. Second base is the base of fine proportion, good scale and detail. Give it a good one in passing. In these days of mechanical contrivances, third base is often given a wide margin in the haste to get "home." In the cheering and excitement of the



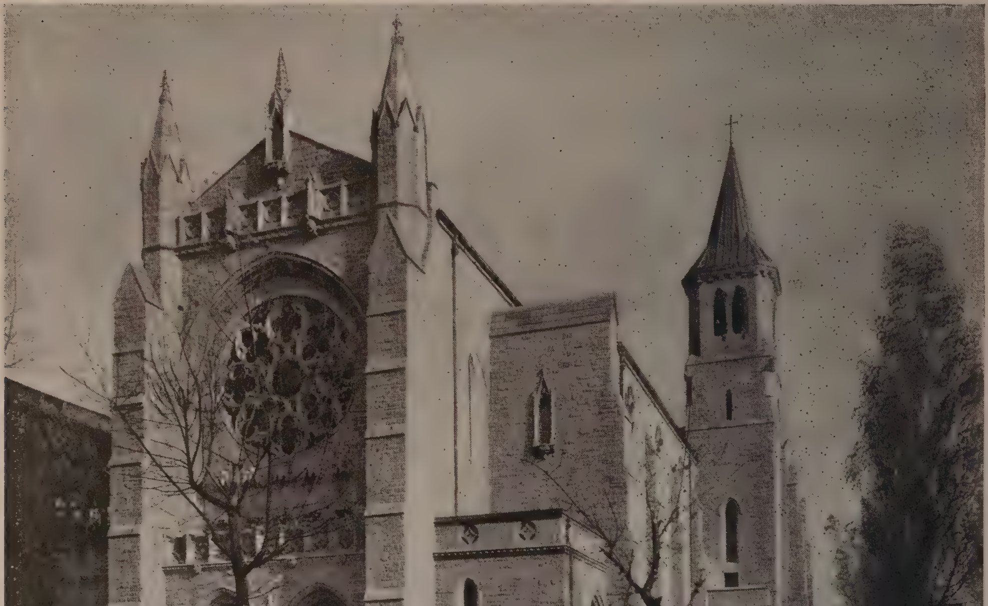
Interior Details

CHURCH OF THE SACRED HEART, JERSEY CITY, NEW JERSEY

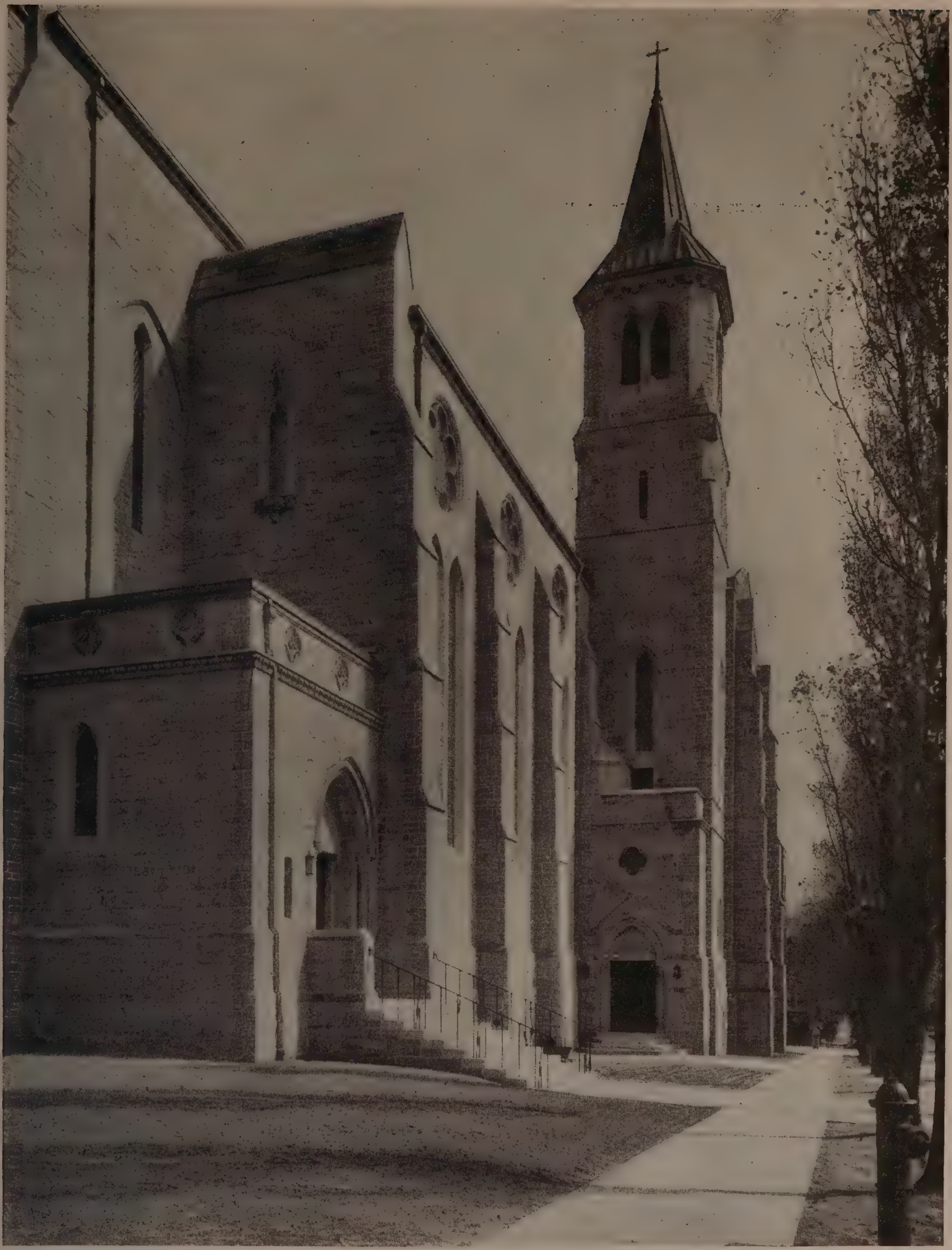
Cram & Ferguson, Architects



Entrance Detail

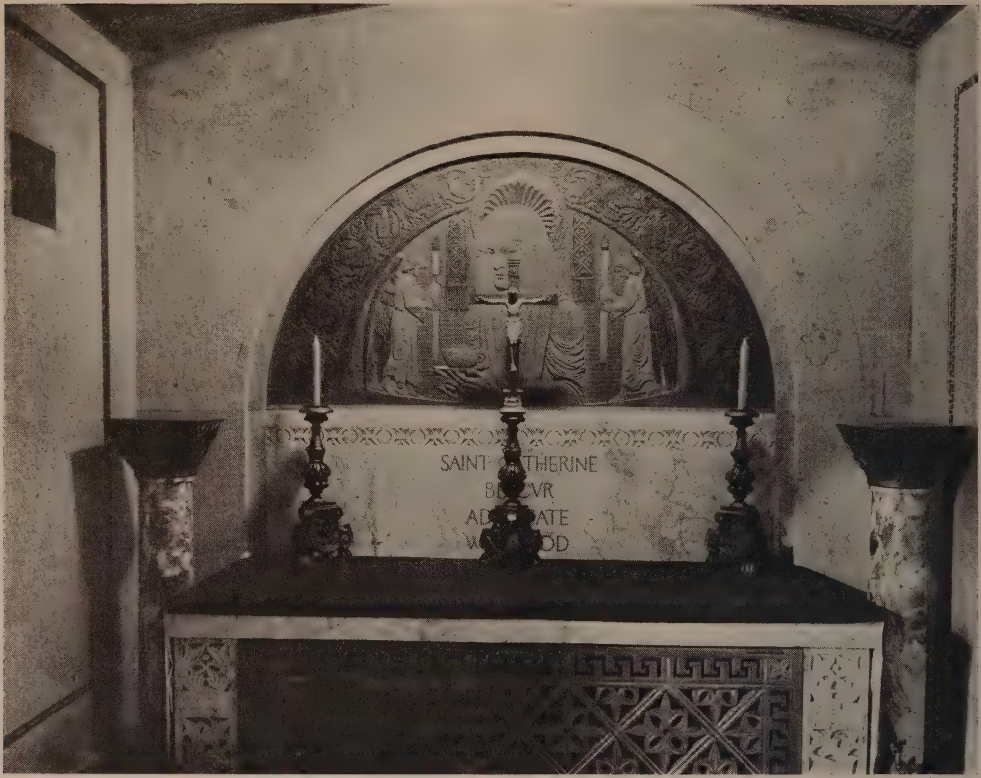


CHURCH OF THE SACRED HEART, JERSEY CITY, NEW JERSEY
Cram & Ferguson, Architects



Side Entrance

CHURCH OF THE SACRED HEART, JERSEY CITY, NEW JERSEY
Cram & Ferguson, Architects

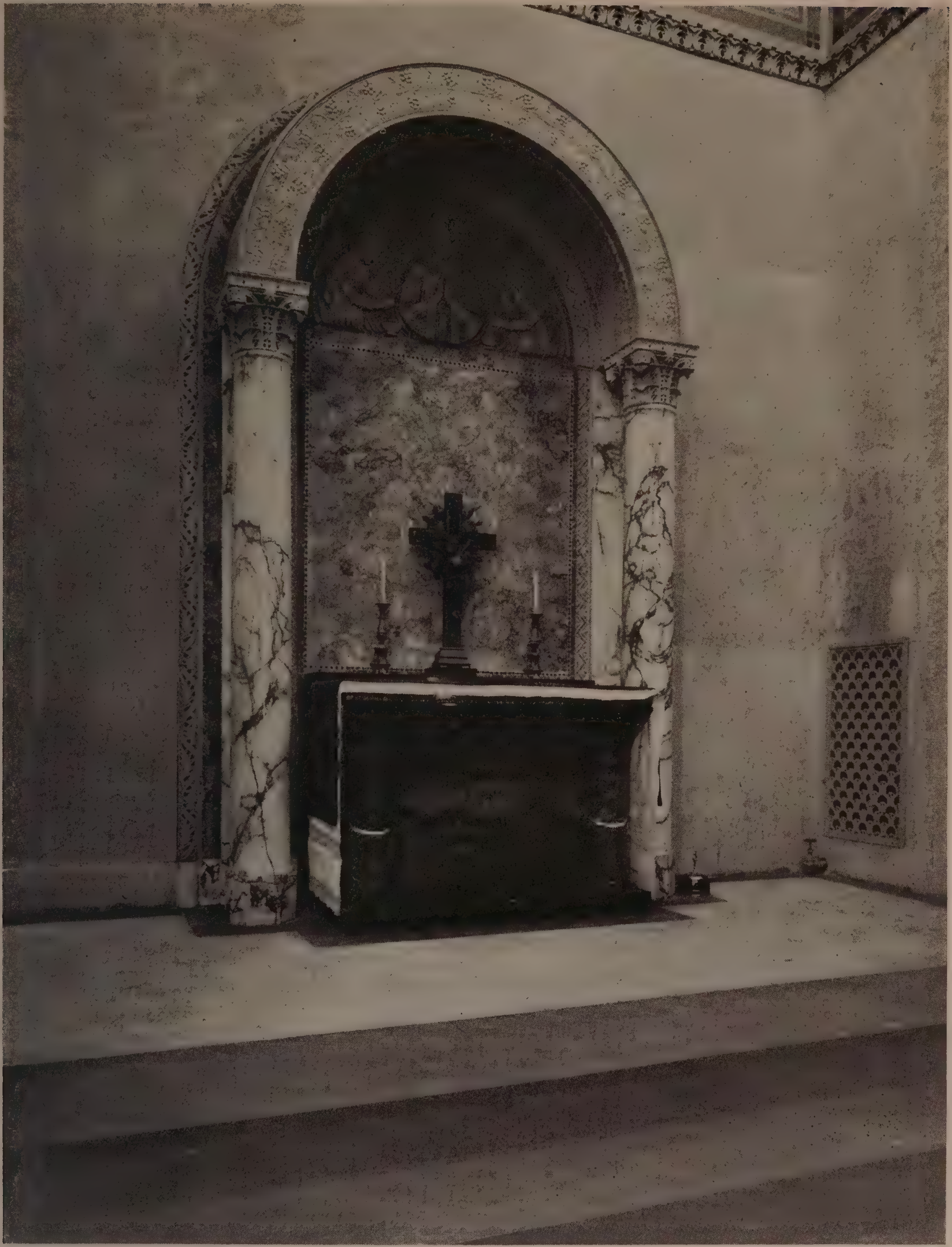


Altar
ST. CATHERINE'S CHURCH, SOMERVILLE, MASSACHUSETTS
Maginnis & Walsh, Architects

moment the umpire may not be looking. But no home run is complete without a good firm step on third—the base of structural and artistic integrity, of structural features properly functioning, of truth expressed both inwardly and outwardly. No short cuts allowed here, no unintelligent meddling with an ancient and noble art, whose principles have been passed on to us for safe keeping from the very beginning of history. Let us not be guilty of treating them lightly. Keep them alive for a while longer, hoping that another and wiser generation will find a way to use steel in a truthful manner.

This paper was announced in the annual prospectus as one having especial reference to the denominational church. It may seem as if we had rather disregarded the editor's statement. But on second though, what has been said that does not apply to the denominational church as well as to the "undenominational"? Perhaps we neglected to state that in the Baptist Church the font usually occupies a conspicuous place in the chancel with robing rooms for candidates conveniently near; or that the Methodists still retain a lingering preference for a less formal architectural setting than do the Protestant Episcopalians, or that the Christian Scientists—but that is overstepping the bounds of our subject.

There is a striking difference between the church buildings of a generation ago and those of today. The same difference is notable between the modern English and the modern American church plan. It is in the relative size of the parish building or buildings, and the church proper. Obviously this is the result of new life and increased activity in the



The Architectural Record December, 1924

Altar

ST. CATHERINE'S CHURCH, SOMERVILLE, MASSACHUSETTS
Maginnis & Walsh, Architects

Carved Wood Panel by I. Kirchmayer
ST. CATHERINE'S CHURCH, SOMERVILLE, MASSACHUSETTS
Maginnis & Walsh, Architects

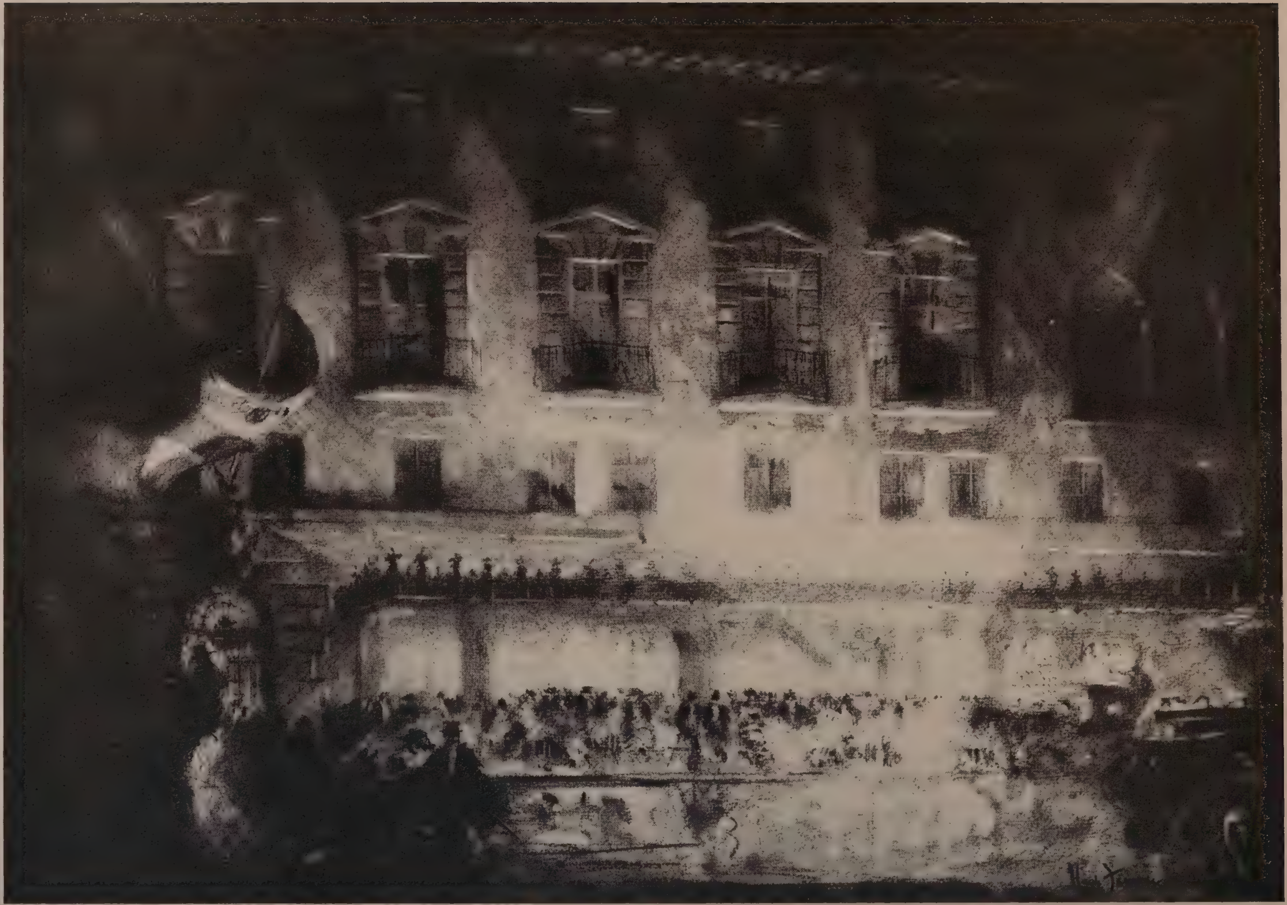
Church—a striving for a more intimate contact with men and women, boys and girls of all ages, in all their activities—social, recreational, educational, vocational and religious. After a lapse of several hundred years the Church is becoming once more a real factor in everyday life. The Christian world has been through much tribulation in that time, as architecture, always a sensitive recorder, will show. It is plain that real Christianity is coming back and with it real living Christian architecture.

The complete church plant of our father's day consisted of the church proper, the Sunday School hall (used also for the annual bazaar and strawberry festival), and a ladies' parlor where sewing could be done for those in distant lands. These departments occupied a wing or ell much subordinated to the church. A glance at a fully equipped church plant of today will reveal the fact that the child has grown to manhood: in fact it is frequently difficult to locate the parent among its overgrown offspring.

The church architect has now to reckon with a "Director of Religious Education" who objects to the general assembly room with its adjoining class rooms sometimes separated therefrom and from each other by accordion doors or rolling partitions. The assembly room is allowed to stay, but its use is for entertainments, banquets and bazaars. In addition there must be other assembly rooms, one for each grade—Beginners, Primary, Juniors, Intermediate, Seniors, Young People and Adults—each kept separate and distinct as in the day school. "Training for Leadership" is an expression we hear on every hand. Then we must have a gymnasium with bowling alleys. A swimming pool is always desired, but funds are seldom sufficient. The D.R.E. must have his office with plenty of room for filing cases, card indexes, a desk and typewriter table. We must provide for the Boy Scouts and the Campfire Girls, and for classes for sewing, day nurseries and mothers' rooms, men's clubs and plenty of closets everywhere, closets for sewing machines, stage properties and paraphernalia of all kinds, closets with glass doors and shelves for the display of Sunday School exhibits, closets for the storage of tables used for church banquets. Plenty of coat room and toilet facilities and drinking water bubblers. And be sure to make every room larger than is now necessary, for we are planning for a wonderful growth —and it has already begun.

The planning and composing of this multitude of elements is not so simple as it was in the days of less strenuous churchmanship; and the architect who does this kind of church planning has trouble in making his church edifice dominate as he still believes it should. Scarcity of funds, or rather the desire to expend them in what the client believes to be more practical ways, forces him to thin down his church walls to the limit allowed by law, with a consequent loss of *poché*. In all too many cases the sphere of the church in its architecture and decoration is absent in everything beyond the "cloister garth," and this is greatly to be regretted. For we should not for a moment forget that all this elaborate outfit is still the Church in its larger relations. The resources of art should be marshalled to make certain that the spirit of the Church pervades the whole group. Especially is this important in the assembly rooms where the several grades hold their general exercises. These places should be churches in miniature, or chapels suitably proportioned and decorated as a church would be, for the purpose of stirring the better part of those impressionable natures in the children. Where funds will permit, there should be stained glass windows of subjects which the children will understand; and decent furniture, perhaps simpler than we have for the church, but good in design, detail and color. In fact the whole atmosphere of the church should be repeated in this—the children's church.

Leaving now the subject of the Sunday school and parish buildings, which have been ably dealt with in a recent number of THE ARCHITECTURAL RECORD, let us return to the church and, in another paper, see what can be done that has not yet been done, except in one or two rare instances, to improve our church architecture.



(c) Vanity Fair

Drawing by Hugh Ferriss

Sketch of Night View

NEW THEATRE FOR THE NEW YORK THEATRE GUILD, NEW YORK CITY

C. Howard Crane, Kenneth Franzheim and Charles H. Bettis, Architects

The NEW YORK THEATRE GUILD'S NEW THEATRE

By Claude Bragdon

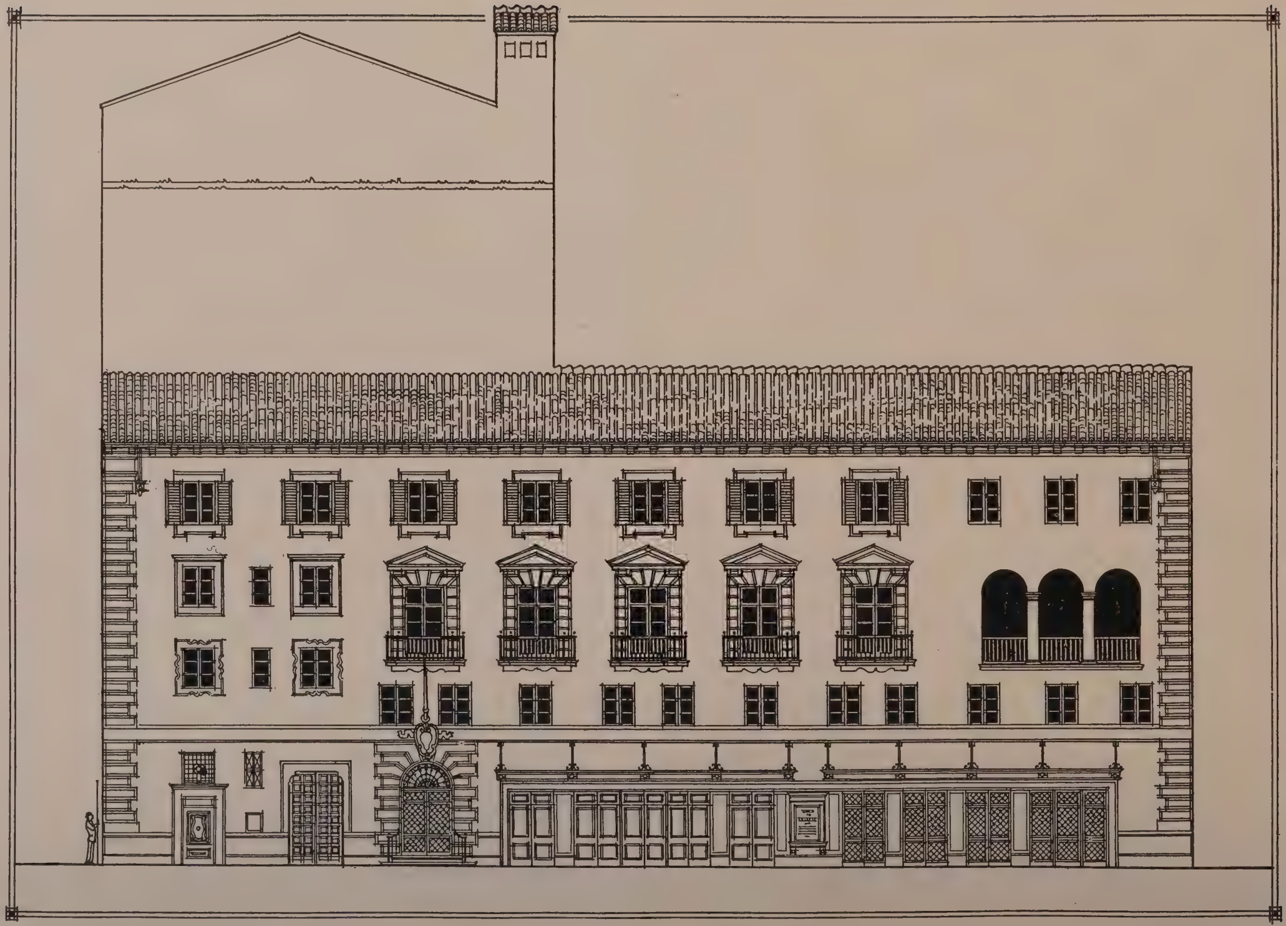
THE NEW HOME of the New York Theatre Guild, now being built on West Fifty-Second street, though a theatre building of the usual type, is somehow different from those monsters of the mere market which in the roaring Forties nuzzle up as close as they can to Broadway. Although like them the Guild theatre will depend for its sustenance on the amusement-loving public, there is a subtle difference, not unlike the difference between a transient and a family hotel. That is to say, the Guild's productions are paid for in advance, by the year, cash over the counter, by subscribers many of whom are stockholders. These people constitute a group which however lacking in cohesion or solidarity has nevertheless a distinct psychology of its own. It stands for something other than what "Broadway" stands for; its demands in the amusement line are not those of the tired business man—some would say that they are more nearly those of the tired business woman, since the cultural and aesthetic side of life is so largely, with us, a feminine engrossment, most intense with those who are most emancipated.

Be this as it may, there is a social and educational aspect to the Theatre Guild's activities, and this registers itself in an interesting way in the new building, which contains class-rooms, studios, a book shop, a library and club room, besides having a ground floor lounge almost as great in floor area as the auditorium itself. The stockholders, indeed, constitute a club, whose home is here. The club room occupies the middle of the front of the building at the balcony level, and is reached by an independent entrance and elevator directly from the street.

The large lounge beneath the auditorium was made possible through a special concession of the building department which permitted the Guild to establish the auditorium floor level of their theater considerably higher than the three low steps called for by the ordinance. The safety of the audience has been insured by making a wide exit direct to Fifty-Second street by means of two ramps and a flight of only five broad steps. This is entirely independent of the entrance to the auditorium, which is through the lounge and up a double stairway discharging at each end of a long foyer immediately back of the auditorium. Another double stairway leads to an upper foyer beneath the balcony.

The theatre has a seating capacity of 914; there is no second balcony and there are no boxes. The apron of the stage, which is lower than is usual, extends completely over the orchestra pit, thus eliminating that chasm which sometimes divides the audience from the actors. There is no proscenium arch, strictly speaking, for the walls and ceiling of the auditorium simply come to an end where the stage begins, but this omission of the picture frame does not constitute this, as some have supposed, a "prosceniumless theatre," which implies something altogether different, namely, that the stage is in the auditorium instead of behind it.

The stage presents no unusual features except that it is higher and deeper than most New York theatre stages built in recent years. The dressing rooms are



Fifty-Second Street Elevation

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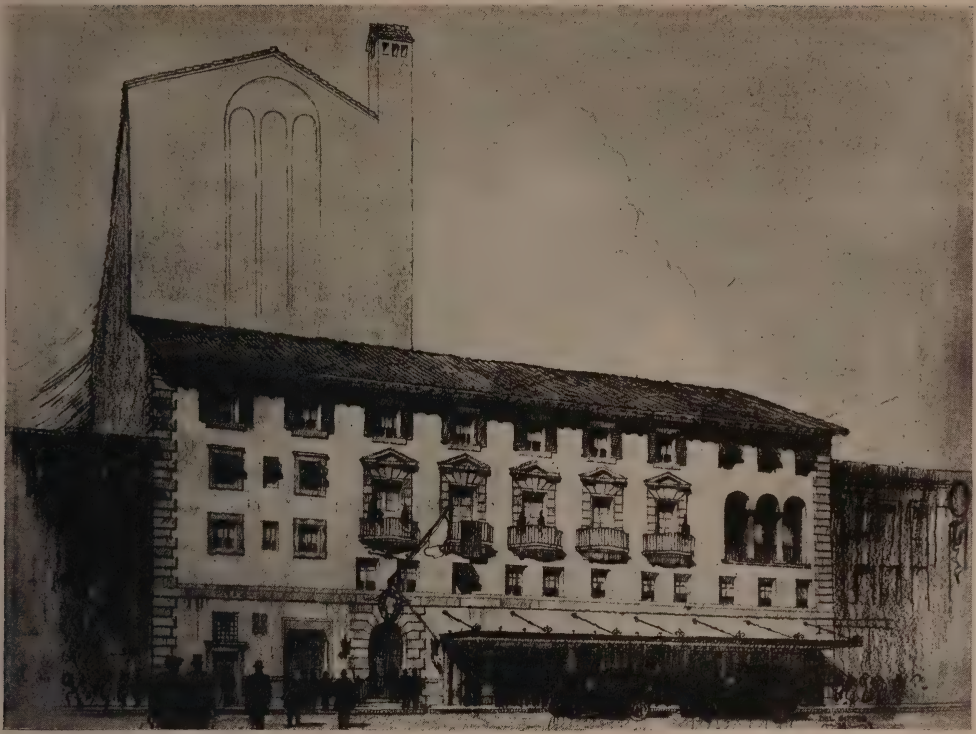

Perspective

NEW THEATRE FOR THE NEW YORK THEATRE GUILD, NEW YORK CITY

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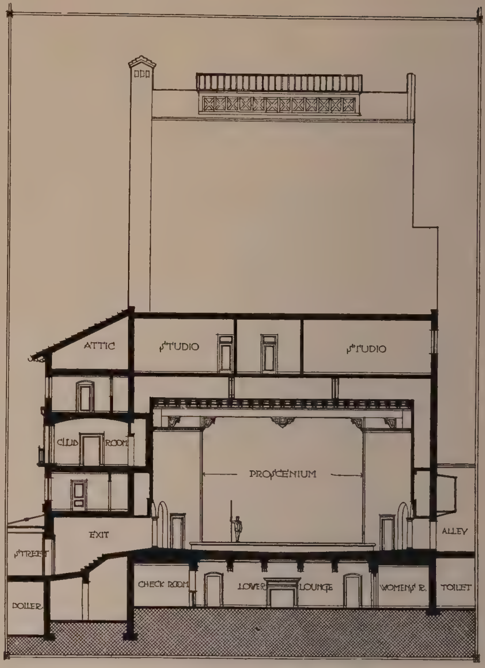
arranged in the usual inconvenient fashion, in vertical tiers reached by iron stairs, the number of such flights an actor has to climb to reach his dressing room accurately indicating his position in the company, for the higher he ascends towards the stars the farther he is from stardom. This vertical disposition of the dressing rooms is really imposed in a city like New York because of the high land values, which make lateral expansion prohibitive, and by reason of the stringent fire regulations which forbid dressing rooms beneath the stage.

All of the scenery is handled from the stage floor by a counter-weight system, instead of from a fly gallery. The electrical switchboard possesses special features, being not only much smaller, but far more full and flexible than the old fashioned theatrical switchboard because equipped with interlocking and automatic devices whereby entire sequences of light changes ensue upon the operation of a single master switch. The dimmers are relegated to a fire and sound-proof vault in the basement.

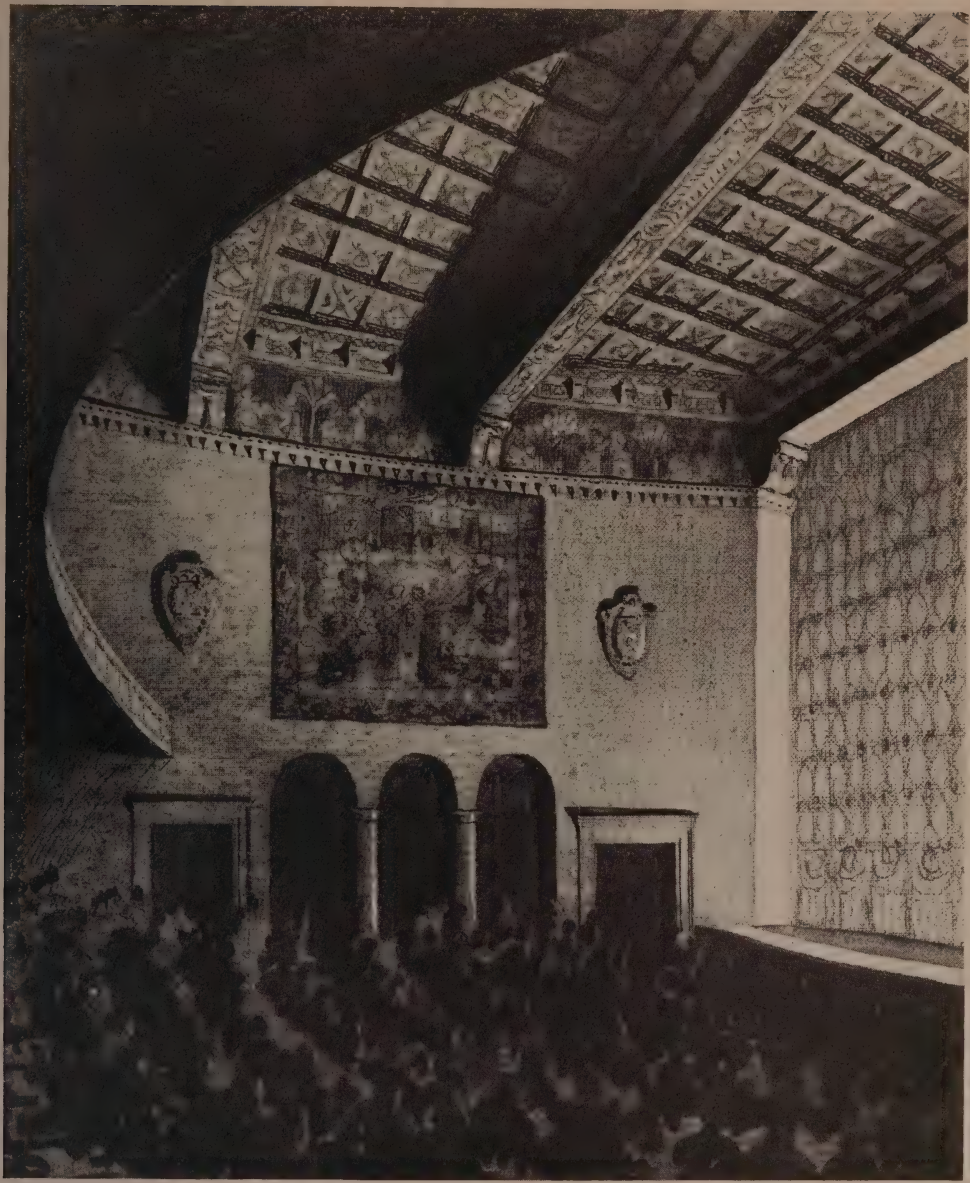
These features, though not common, are not new: the real novelty in the matter of stage equipment is likely to be the cyclorama—that which in the theatre represents the sky. This is the *bête noir* of every art director, whose experience with stage firmaments is likely to give him a new respect for the architect of the universe, that he can keep the wrinkles out of his vast and seamless cyclorama in all weathers, never let it get in the way of the rest of the scenery, and can produce such a wide variety of subtly changing light and cloud effects. In the theatre the cyclorama is usually a great sheet of dirty linen, suspended from the gridiron in the form of an ellipse, slaty blue in color, as perishable as lingerie from a cheap shop, susceptible as a consumptive curate to every change of temperature, which registers as wrinkles and as puckers in the seams, swayed by the slightest breeze, and always in the way of everything and everybody. To overcome all this the plaster cyclorama was invented, of which there are three in New York, but this has also its disadvantages, for if the one looks too much like cloth in certain lights, the other looks too much like plaster, and waves in the sky are just as disillusioning as wrinkles; dirt also has as great an affinity for the one as for the other.

When Mr. Lee Simonson—the Guild's art director—was in Europe he discovered in use in certain theatres a cyclorama of a new type, the invention of that Linnebach whose lantern for painting scenes on the back drop with light instead of pigment has been used in the Guild productions from time to time. This cyclorama was of linen, sewed in such a way that the seams did not appear, but its uniqueness consisted in the fact that it was rolled up when not in use—and therefore out of the way and well protected—on a kind of gigantic vertical shade roller, the cloth attached at the top in such a way that by the pressing of an electric button it rapidly unfurled itself along the line of an elliptical track high aloft, out of the way and out of sight. This is the type of cyclorama that will be used in the Guild theatre. It will be lighted by the Pevear system, which makes possible every conceivable color combination, and insures perfect diffusion, the lamps being placed at top and bottom, within four feet of the cloth. The lamps at the bottom will be sunk in a trough in the stage floor, so that ground rows—which conceal the floor lights from the view of the audience—can be dispensed with. The other lighting devices will be, in general, like those in use at the Garrick now, but there will be in addition concealed projectors for lighting the stage from the auditorium. All these matters of back-stage lighting, planning and equipment were Mr. Simonson's particular charge, one for which his experience as the Guild's art director makes him particularly well fitted.



Transverse Section

The architects of the Guild Theatre are C. Howard Crane, Kenneth Franzheim, and Charles Hunter Bettis. Norman-Bel Geddes was retained as consultant—the man who performed the miracle of the Miracle, the transformation of the interior of the Century theater into a church. In the early conferences between the Guild directors and their architects, Mr. Geddes submitted a solution of his own, embodying many of the features of his "theatre number six," described in the September, 1922, number of The Architectural Record. But to carry this plan out would have presented grave difficulties, since it violated ordinances framed for theatres of an entirely different type, and it would have involved delays and additional expenses in the matter of rock excavation, etc. Therefore only a few of Mr. Geddes' suggestions were adopted, and his hand appears in the final result scarcely at all.



(c) Vanity Fair

Section of Auditorium and Stage

NEW THEATRE FOR THE NEW YORK THEATRE GUILD, NEW YORK CITY
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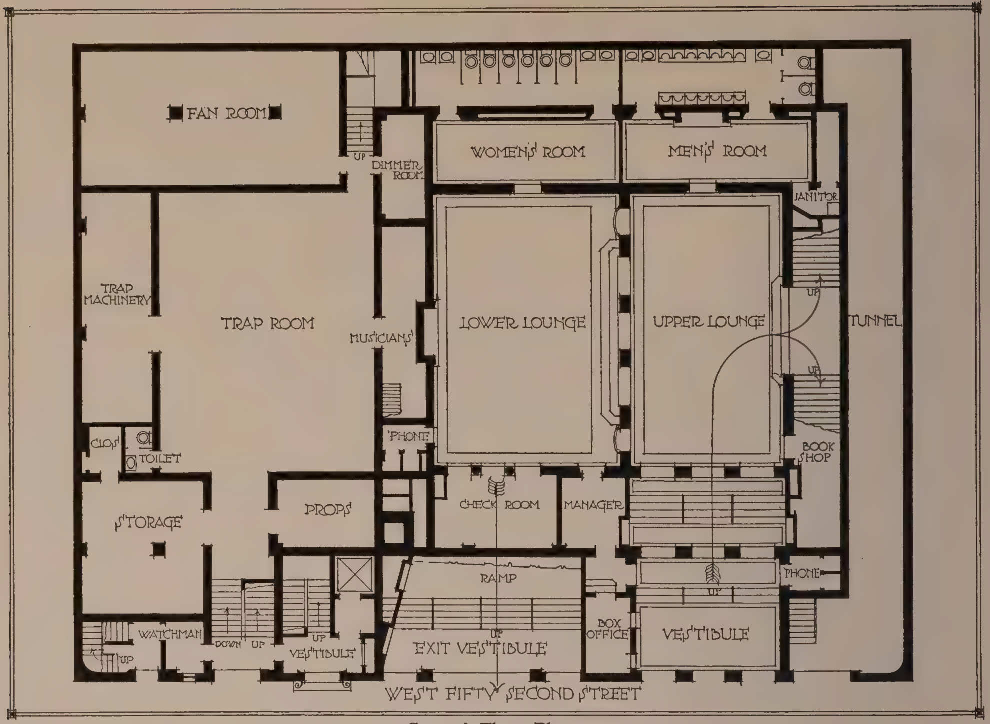
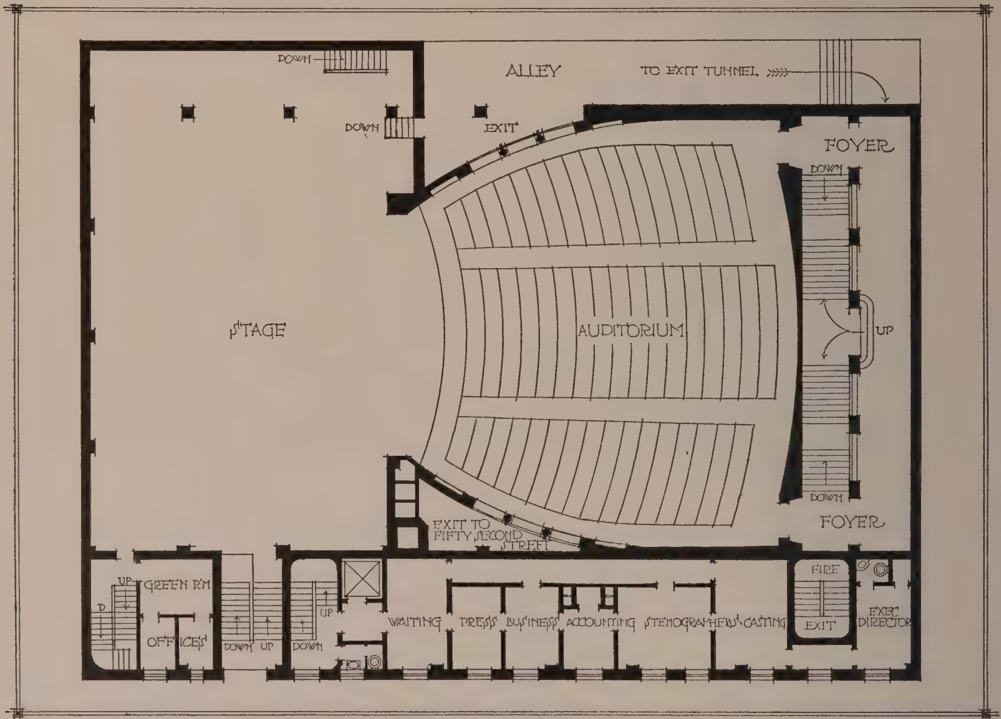


Ground Floor Plan



Auditorium Floor Plan

NEW THEATRE FOR THE NEW YORK THEATRE GUILD, NEW YORK CITY

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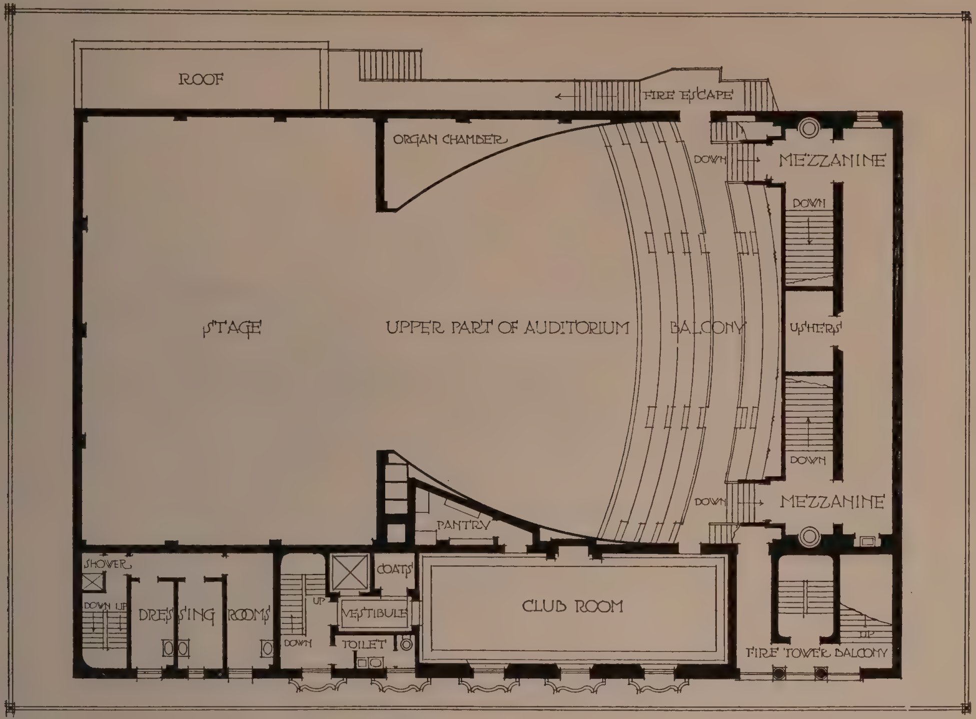

Balcony Floor Plan

NEW THEATRE FOR THE NEW YORK THEATRE GUILD, NEW YORK CITY

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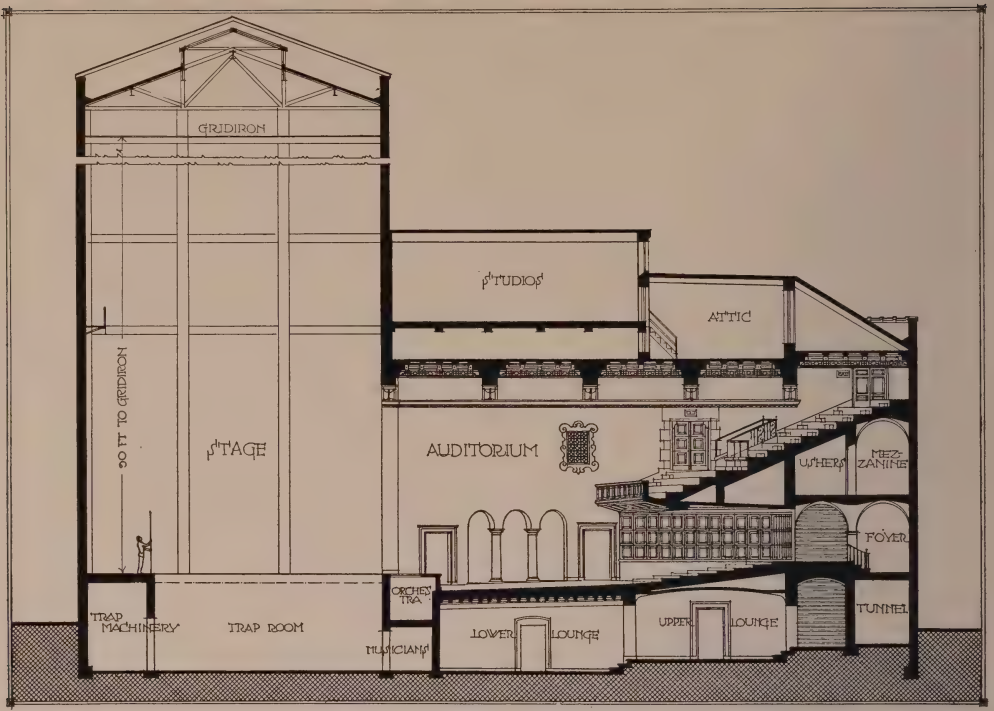
The Guild architects are specialists in theatre planning and construction, and from a study of the drawings it is apparent they have evolved a somewhat conventional and conservative, but wholly admirable solution of their problem, doing with it all that was possible under those most stern conditions governing theatre building in New York. Between the devil of land and building costs, and the deep sea of legal and operating requirements, ideal success being out of the question, they have escaped with such honor as may attend the designing of what is likely to prove the best theatre building of its class in New York. It would be unfair to institute a comparison of it with certain German theatres built by Professor Max Littmann, under so much more kind conditions and with a less restricted hand.

The style of the exterior appears to be that of the late Italian Renaissance—stucco wall surfaces, with heavily rusticated stone quoins and window trim, an overhanging decorated wood cornice and a tile roof. The façade is well composed, the intricate elements of the plan being transformed, in the fenestration, to order and some semblance of symmetry. It is truthful, in the main: these little windows show the offices and dressing rooms; here, where the large French windows and balconies occur, is the club room; the triply arched loggia while concealing, reveals the presence of the fire-tower exit; the long marquise and the battery of doors publish the fact that here is a theatre.

There has been no attempt to give aesthetic expression to the upper part of the stage enclosure, or to relate it to the façade in any way: it remains a crude, rude pile of brick. Though this is according to the usual practice, it is an opportunity missed. The rear of the Metropolitan Opera House is an object lesson of what may be made with a stage en-



Longitudinal Section

NEW THEATRE FOR THE NEW YORK THEATRE GUILD, NEW YORK CITY
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closure: there are few finer things, architecturally, in all New York, than that great grey buttressed wall and pediment.

Architecture is itself an art of *dramatization*: a building should be made eloquent of itself, expressive of its purpose. Now there are at least three things that might differentiate the exterior of a theatre from that of a hotel or a club for example. One of these is the towering stage enclosure above mentioned, and the others are the so necessary long marquise sheltering the numerous entrance and exit doors, and the quite indispensable electric sign which ballyhoos to Broadway the fact that here is pleasure to be purchased for a price. It would be interesting to see a theatre in which these two last-mentioned features were recognized as characteristic and dramatically important, and therefore designed with deliberate and distinguished art, instead of being left to the untender mercies of some maker of commercial electric signs. It is to be hoped that the Guild theatre will not be thus afflicted, but that the architects will extend their jurisdiction over every last gleaming letter of every latest glistering sign.

This theatre should be a temple of austere joy, of fresh and living beauty, and as such its custodians and ministers should fling their harlequin cloak wide enough to cover every outer confine and affiliated field of endeavor, of which there are a number, for the theatre touches life at many points. It is a matter of theatrical history that the Guild made an excellent start in this direction during the difficult early days of the organization; now that they are beginning anew in so admirable a theatre of their own, may they dedicate themselves anew to their great task.

The LIBRARY OF THE ARCHITECT

By

A Lawrence Kocher

PART IV

Views of Writers and Architects of England

In answer to the query concerning the value of reading for the architect, the dramatist and layman, Mr. George Bernard Shaw says that "architects are made by building, not by books. An architect may read Vitruvius, Piranesi, Adam, Ruskin and Morris to add culture to his professionalism; but a comparison of 12th century architecture with 16th century, or Greek with Latin, will suggest strongly that the more an architect knows academically the worse he builds. In England we had so many eminent 14th century faker-experts that the 19th century never had a dog's chance architecturally."

Mr. Charles H. Moore

Mr. Charles H. Moore deplores the divorce of the practice of architecture from craftsmanship and he would restrict the reading for the architect to the few books that treat primarily of structure as the formative principle of every genuine style. "I think," says Mr. Moore, "it is of first importance that students of architecture should understand present conditions, and realize that what is known as the 'architectural profession' is a new thing in the world, which has grown out of an abnormal state of things. The practice of architecture is now, as a result of these conditions, divorced from craftsmanship, in which alone any good art can have being. Building operations have passed out of the hands of artist-craftsmen into those of mechanical engineers and manual operatives—the architect having no proper artistic training, since such training is impossible apart from the building craft. Moreover, building is now so industrialized and commercialized that a general demand for methods and materials that lend themselves to haste and cheapness in construction, has been created, whereas good architecture calls for sound methods and best materials. In these circumstances, the young architect with ideals is painfully handicapped, and it is only in the degree that a more favorable atmosphere can be brought about, that any hope of improvement can be justified.

"With regard to books, very few that we have are really useful, because, in the vast majority of cases they are not based on competent first-hand observation and accurate description of the works with which they deal. They are largely made up out of other books—all more or less unreliable. The few books worth reading are those that treat primarily of structure as the formative principle of every genuine style, and correctly describe the character of its ornamental features. Only one writer, that I know of, has done comprehensive justice to the vital part of the subject; namely, the French master, Viollet-le-Duc. His writings, as to structure, are incomparably superior to all others because, with an ardent native genius for the work, he took pains to equip himself by strenuous investigation of the monuments themselves. His writings cannot be too faithfully studied by young architects. The best other books are, I think, those which describe great buildings of the past, though none of these give complete information. The best of them, with which I am acquainted, is de Verneilh-Puiraseau *L'Architecture Byzantine en France,* in which the Church of Saint-Front of Perigueux is described.

"Every student of mediaeval architecture ought to know the little notebook, preserved in the National Library of Paris, by Villard de Honnecourt, a French architect, or master builder, of the thirteenth century. It gives first-hand knowledge as to the nature and amount of scientific equipment that prevailed among the French Gothic constructors of the great age of Gothic building. It shows that these master builders though men of highest artistic and mechanical abilities, worked by what is called rule of thumb. This precious little book has been reproduced in photographic facsimile, and copies may, I believe, be had.*

"There was little writing on architecture in ancient times or during the middle ages. The great bulk of our literature on the subject is modern, and begins with the Italian Renaissance of the fifteenth century. It is mainly of two kinds, that which treats of the Orders, and that which treats of the styles of the middle ages—mainly of what is commonly called Gothic. The Italian writings on the Orders are based on the writings of Vitruvius, and on them our modern practice has been largely founded.

"Writings on the architecture of the middle ages virtually began in the early years of the last century, but little in the most of them will be found profitable for the reason given above.

"It is not in reading, so much as in association with men of kindred ideas and aims, above all with intelligent craftsmen, that the young architect will profit. While the old craft-training for the practice of architecture is not likely to revive in our day, something may be done to acquire the kind of knowledge and experience that is wanted, by contact with building operations—brick and stone masonry, carpentry, and whatever concerns the actual art of building, is altogether fundamental as preparation for right practice of architecture."

Mr. C. F. A. Voysey

Mr. C. F. A. Voysey says it was personal character, not style, which made architecture great. The art of architecture has at all times been full of shifts and compromises, as every other mundane thing. In his youth there had been classical architects following Revett and Stuart while the Gothic architects were "swearing" by Britton, Pugin, Rickman, Scott and other mediaevalists—and each turning up their noses at the other group. Whereas the humanities were the important thing. The profession had a long way to go before they got back to human building and human interests. Says Mr. Voysey: "all my life I have regretted the divorce between professional training and morals, and I believe all true culture must be based on the love of truth, the love of beauty, and the love of God. And I do not believe you can make anyone artistic by cramming him with theories or facts.

"Cultivate character and art will take care of itself. Many of the best artists have received no so called artistic training.

"First and foremost, all books leading to the knowledge of materials and their possibilities and limitations."

Smith, Adam—Moral Testaments
Ruskin, John—The Eagle's Nest
Phillipps, March L.—Works of Man
—Form and Color
Emerson, Works of
Voysey, Rev. Charles, M. A.
—Religion for all Mankind
—The Mystery of Pain, Sin and Death
—Theism as a Science
—Theism the Religion of Common Sense

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*The original manuscript is in the Bibliothèque Nationale. A facsimile copy was published in Paris in 1858 by M.M. Lassus and Durcel. The following dedication appears on the second page of the sketch book:

"Villard de Honnecourt salutes you, and prays all who work in the various kinds of work contained in his book to pray for his soul, and to remember him; for in this book one may find great assistance in learning the principles of masonry and construction in carpentry. You will also find in it the method of drawing the figures as geometry commends and enjoins."

MR. STANLEY C. RAMSEY

Mr. Stanley C. Ramsey, London architect and author of "Small Houses of the Late Georgian Period" believes one of the most important features that should be remembered is, to start with, a student's library should not be too large nor too expensive. "It can always be added to in the future but the important thing is to have a good nucleus as a commencement.

"I suppose everybody's views differ as to what are the most useful books and one can only make proposals, and any proposals made must be more or less colored with one's own mental and architectural outlook.

"I think I should say that a small library for a student should consist of:

1—Books dealing with general literature and fine arts.

2—Books dealing with purely architectural subjects which might be divided as follows:

In the general list I should include:

Pater, Walter—Italian Renaissance
Gardner, Ernest, Prof.—Ancient Athens
Murray, Gilbert, Prof.—Euripides

"In addition I think that every architectural student, particularly every American architectural student, ought to know Emerson's Essay on 'History' by heart, and should have acquaintance with Miss Edith Wharton's novels.

"In the list of purely architectural works I should include:

Anderson—Italian Renaissance
Anderson & Spiers—Greek & Roman Architecture.
Blomfield, R.—History of English Renaissance Architecture (Students' edition)
—The Georgian Period 'American Colonial Architecture'

and if possible one of the following from the 'English Cottage Series,' published by Messrs. Batsford.

Dawber, Guy—Kent and Sussex Cottages
Oliver, Basil—Cottages in East Anglia

SIR G. GILBERT SCOTT

Sir G. Gilbert Scott, architect of the Liverpool Cathedral, endorses the following list:

General

Fletcher, Sir Bannister—History of Architecture.
Simpson, F. M.—History of Architectural Development.
—The Architectural Association Sketch Book.

Classic

D'Espouy—Fragments d'Architecture Antique
Belcher & Macartney—Later Renaissance Architecture in England.

Gothic

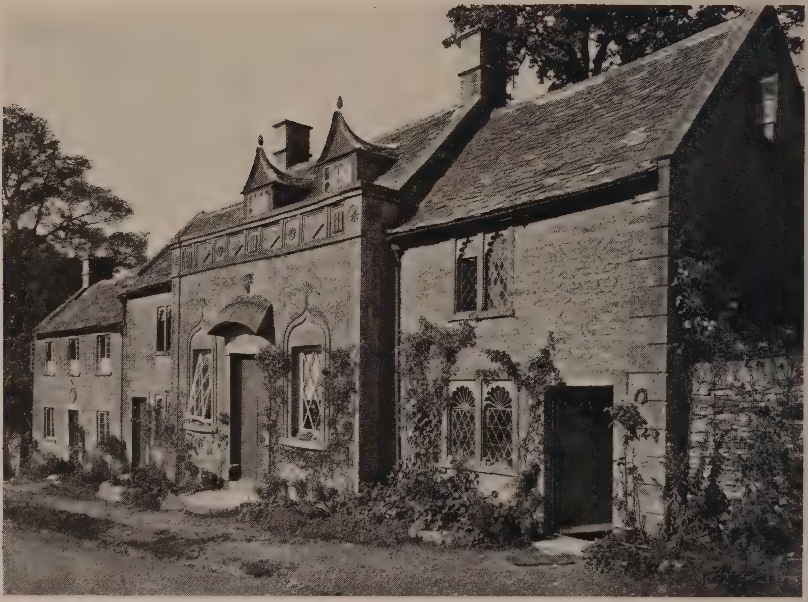
Bond, Francis—Gothic Architecture in England.
Jackson, T. G.—Gothic Architecture.
Howard & Crossley—English Church Woodwork.
Crossley—English Church Monuments.

MR. LAWRENCE WEAVER

Mr. Lawrence Weaver, the architectural critic and editor of the English Country Life, has supplied a list of books recently purchased by the Architectural Department of an Australian University after consultation with him. Mr. Weaver very modestly says that the only defect in the list is that it contains some of his own books. This must be attributed to the good judgment of the professor who helped to make it.

Tipping—Grinling Gibbons.
Weaver—Gardens for Small Country Houses.
Phillipps, L. M.—Form and Colour.
Ricci, C.—Baroque Architecture.
Briggs—Baroque Architecture.
Fergusson—History of Indian Architecture.
Havell—Ancient and Mediaeval Architecture of India.
Blomfield, R.—History of French Architecture. 2 vols.
Unwin, R.—Town Planning in Practice.
Triggs, Inigo—Town Planning.
Geddes, Patrick—Cities in Evolution.
Belcher—Essentials in Architecture.
Godfrey—Gardens in the Making.
Blomfield, R.—The Mistress Art.
—Studies in Architecture.
Phillimore—Life of Wren.
Loftie—Christopher Wren.
Oliver—Old Houses in East Anglia.

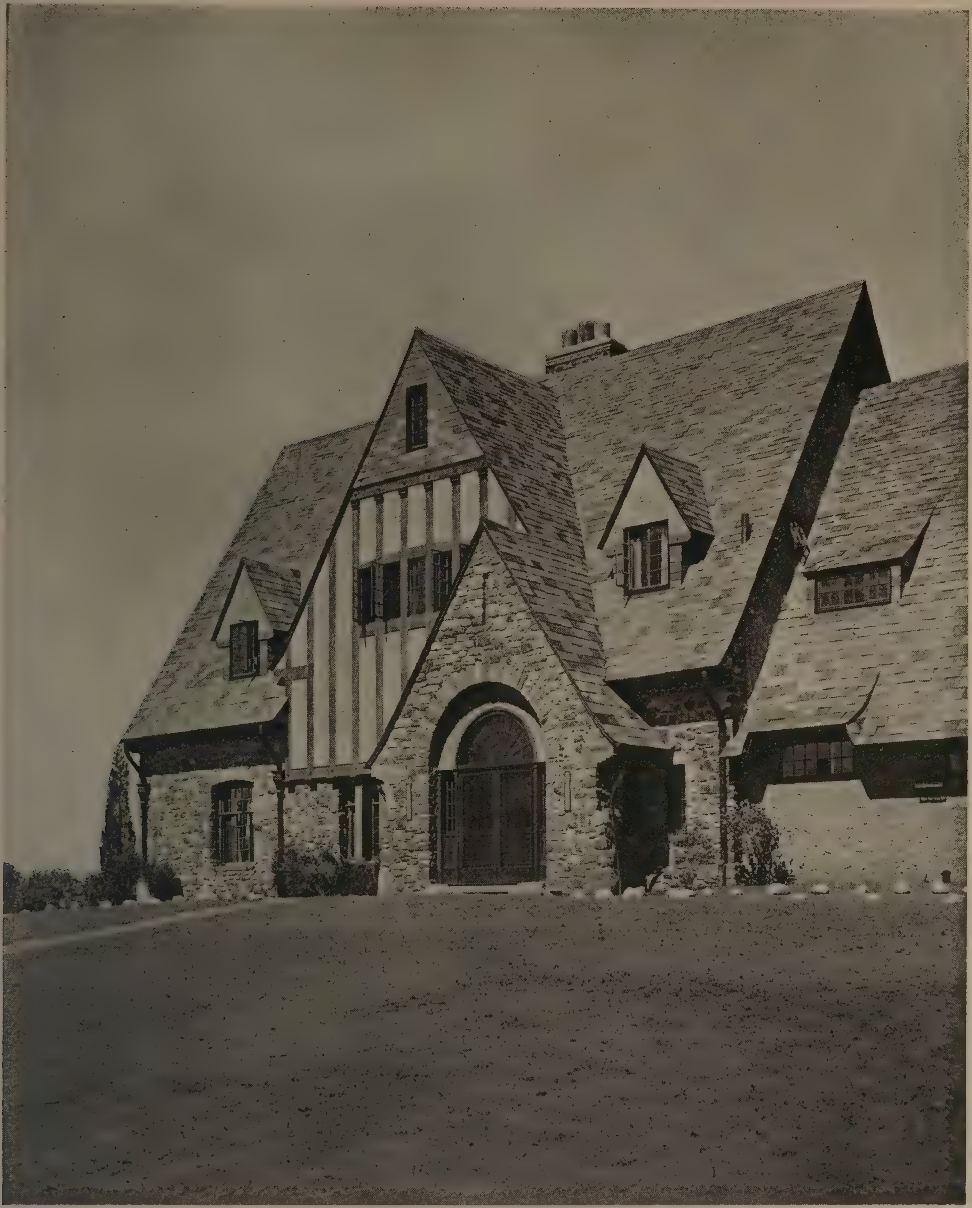
Harvey—Village of Bournville.
Innocent — Development of Building Construction.
Shuffrey—English Fireplace.
Repton—Landscape Gardening.
Sturgis—Dictionary of Architecture.
Bankart—Art of the Plasterer.
—The English Dictionary of Architecture.
Charles Platt, Works of
Triggs & Tanner—Inigo Jones.
Howard & Crossley—English Church Woodwork
Jackson—Gothic Architecture.
—Architectural Review—4 vols.
Macartney—Practical Exemplar of Architecture
Garbutt—Architecture.
Addy—Evolution of the English House.
Haverfield—Ancient Town Planning.
Eve—Decorative Heraldry.
Bell—Architecture of Ancient Egypt.
Lenygon—Decoration of 17th and 18th Century.
Petrie—Arts and Crafts of Egypt.
Brangwyn—Book of Bridges.
Hackett—Decorative Furniture.
Simon, C.—Eighteenth Century Furniture.
Elwood—English Furniture and Decoration.
Weaver—English Leadwork.
Hope—Heraldry for Craftsmen.
Williams, L.—Arts and Crafts of Spain.
Ashbee—Where the Great City Stands.
Thompson—Ground Plan of the English Church
Cov—English Parish Church
Wilmott—House Design.
Triggs, Inigo—Garden Craft in Europe.
Richardson & Gill—London Houses.
Bond—Cathedral Builders.
Blomfield, R.—Formal Gardens.
Sledding—Art and Handcraft.
Street, G. E.—Memoir of
Weaver—Lutyens' Houses and Gardens
Blomfield, R.—English Renaissance Architecture.



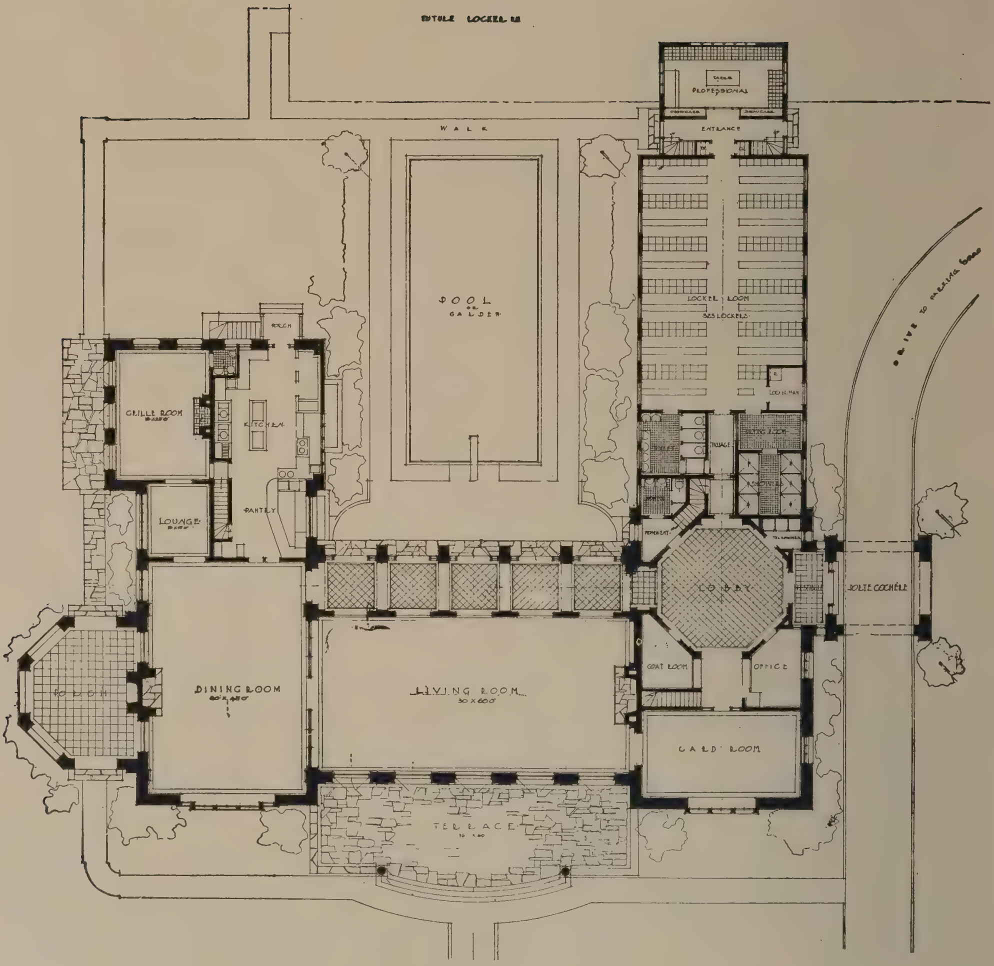
HOUSE AT LOWER SWELL, GLOUCESTERSHIRE

PORTFOLIO

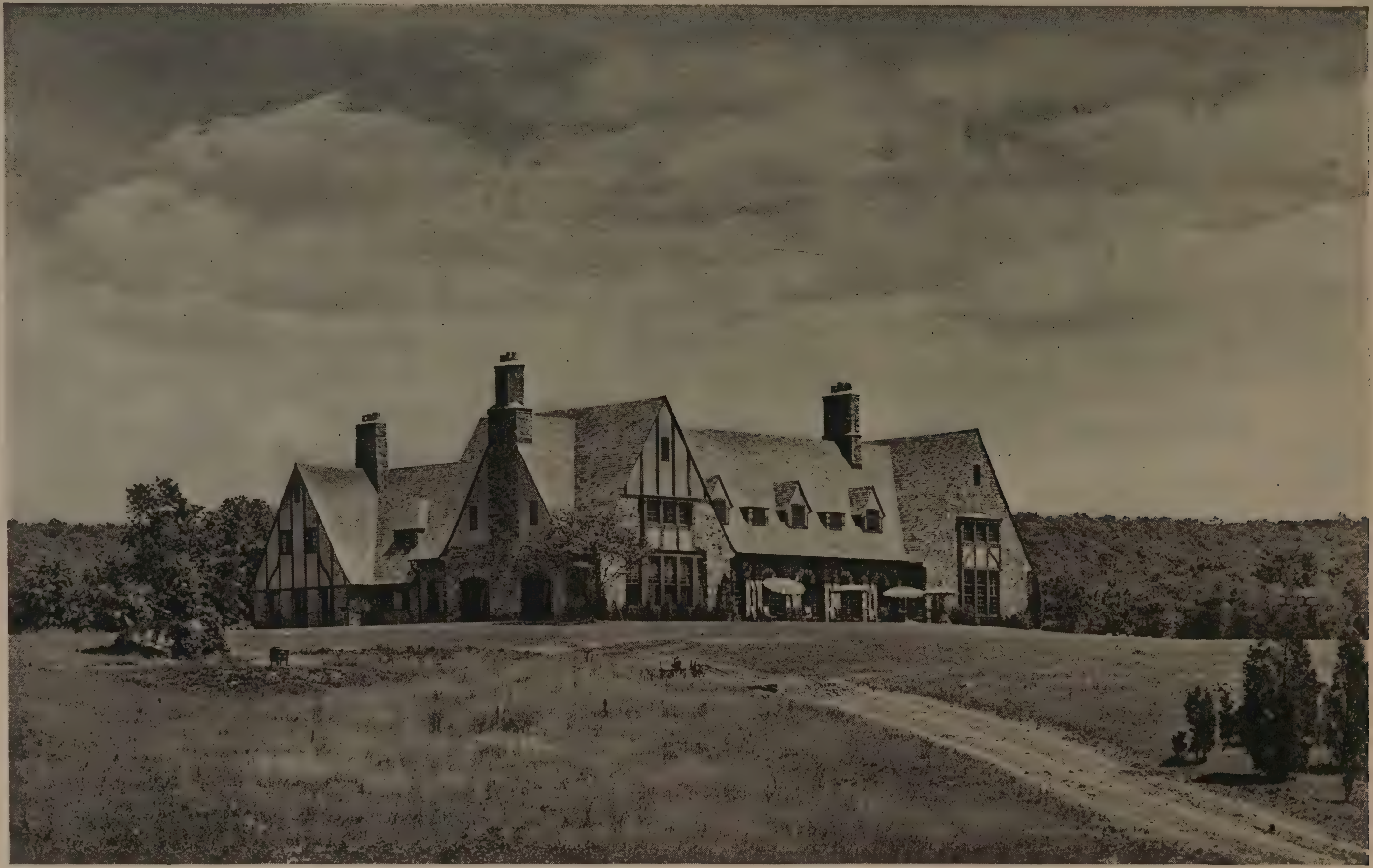
CVRRENT · ARCHITECTVRE



NORTH JERSEY COUNTRY CLUB, PATERSON, NEW JERSEY
Clifford C. Wendehack, Architect



Floor Plan
NORTH JERSEY COUNTRY CLUB, PATERSON, NEW JERSEY
Clifford C. Wendehack, Architect



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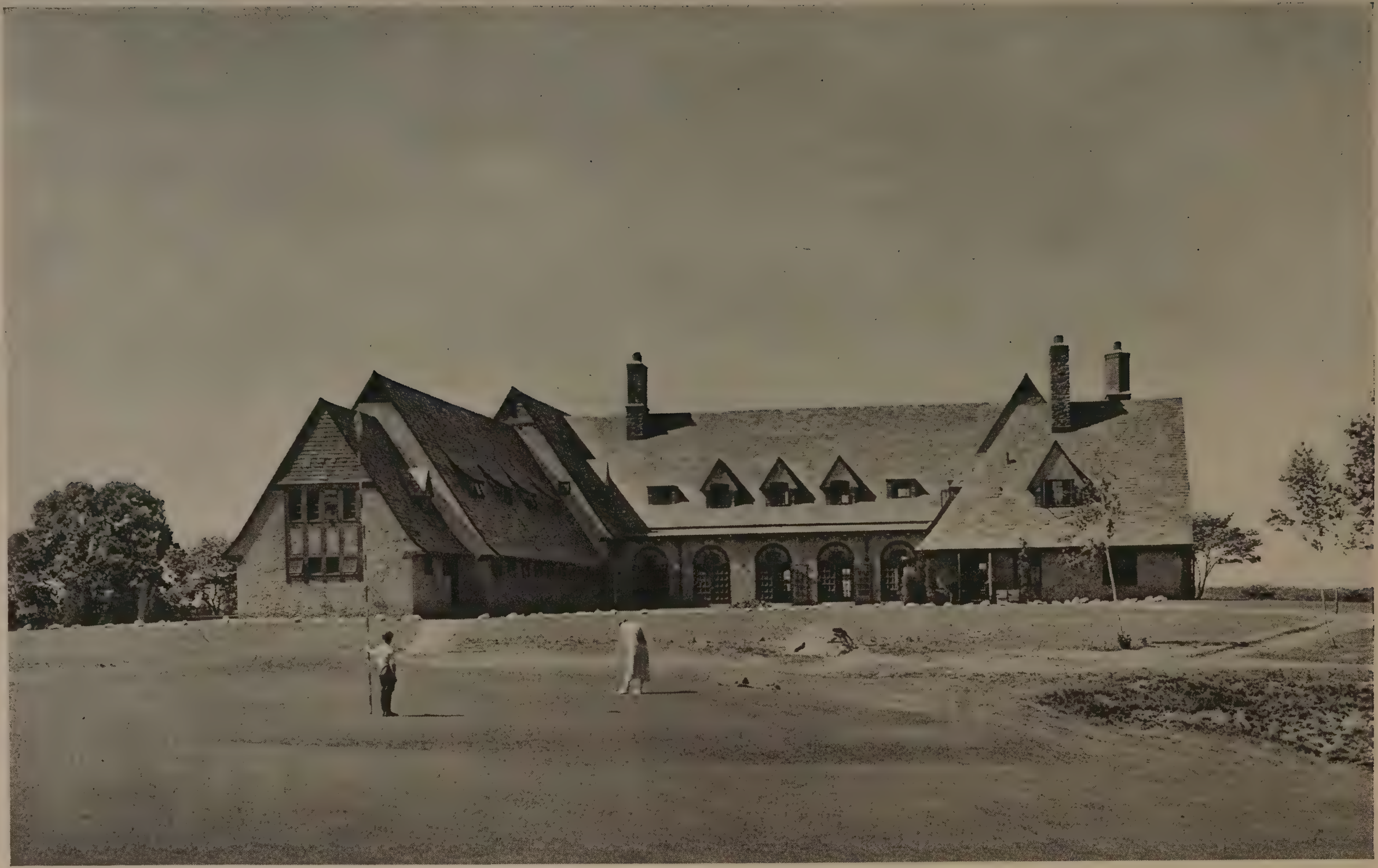

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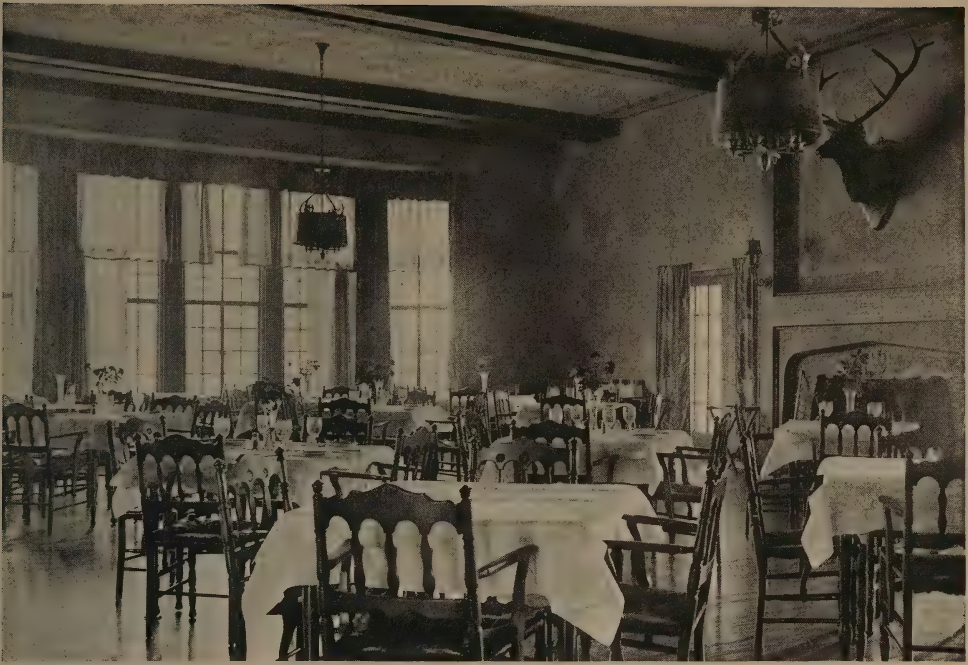
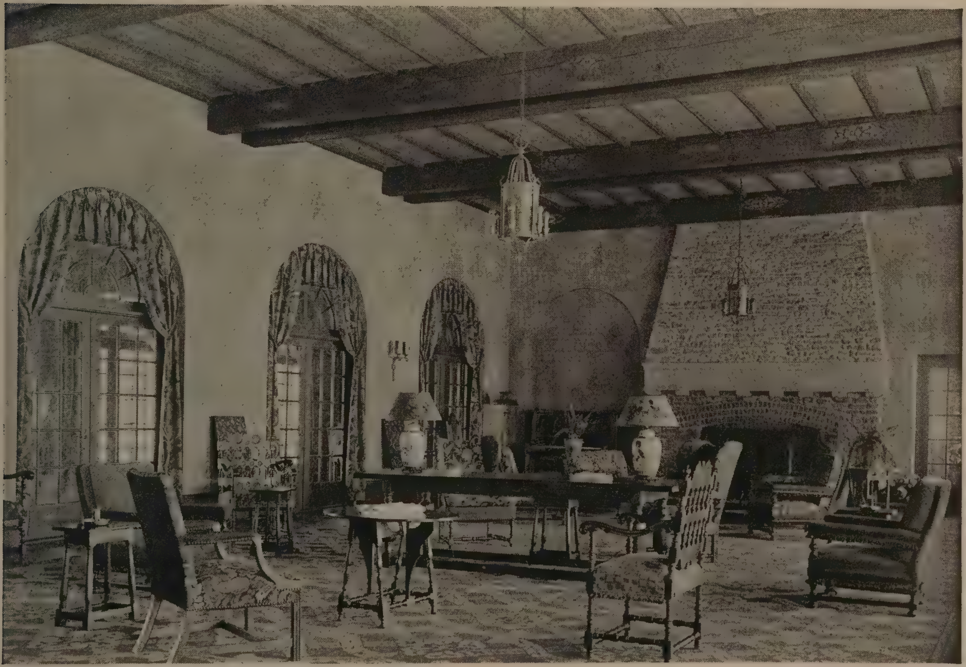
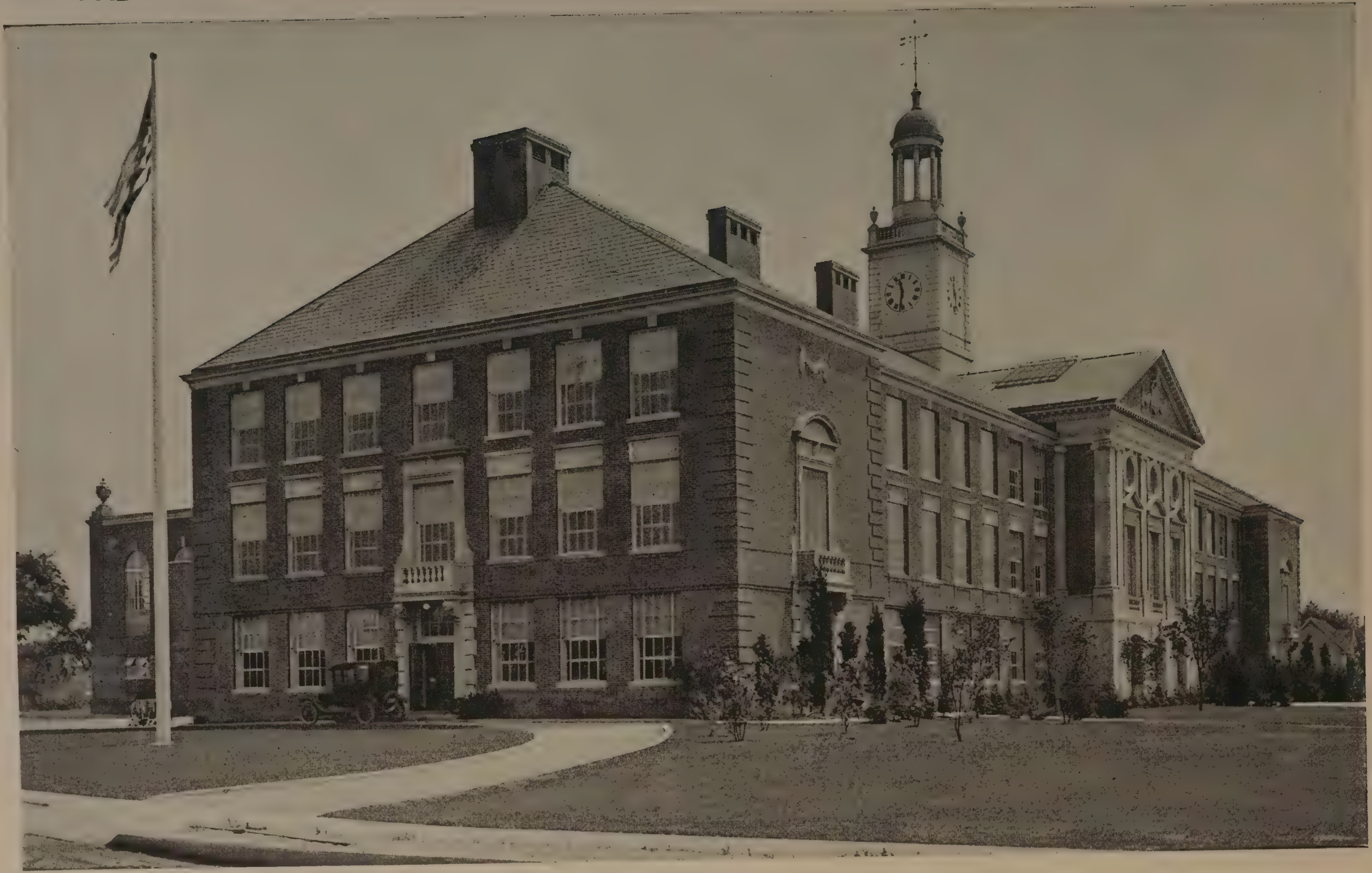


Dining Room



Lounge

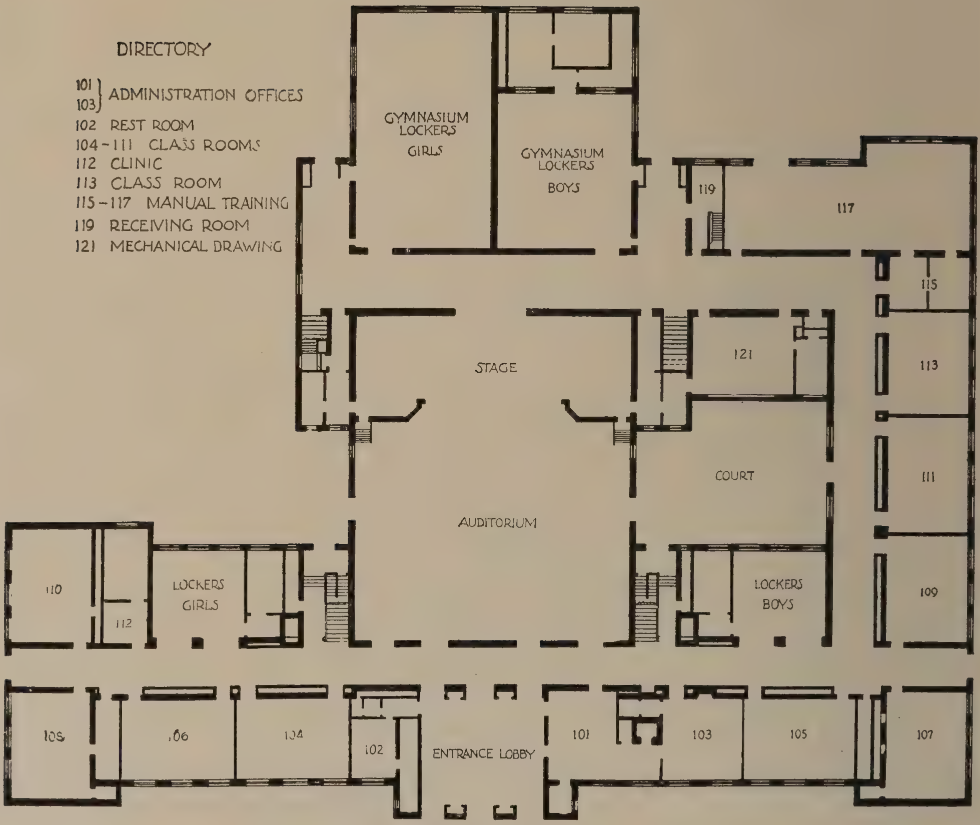
NORTH JERSEY COUNTRY CLUB, PATERSON, NEW JERSEY
Clifford C. Wendehack, Architect



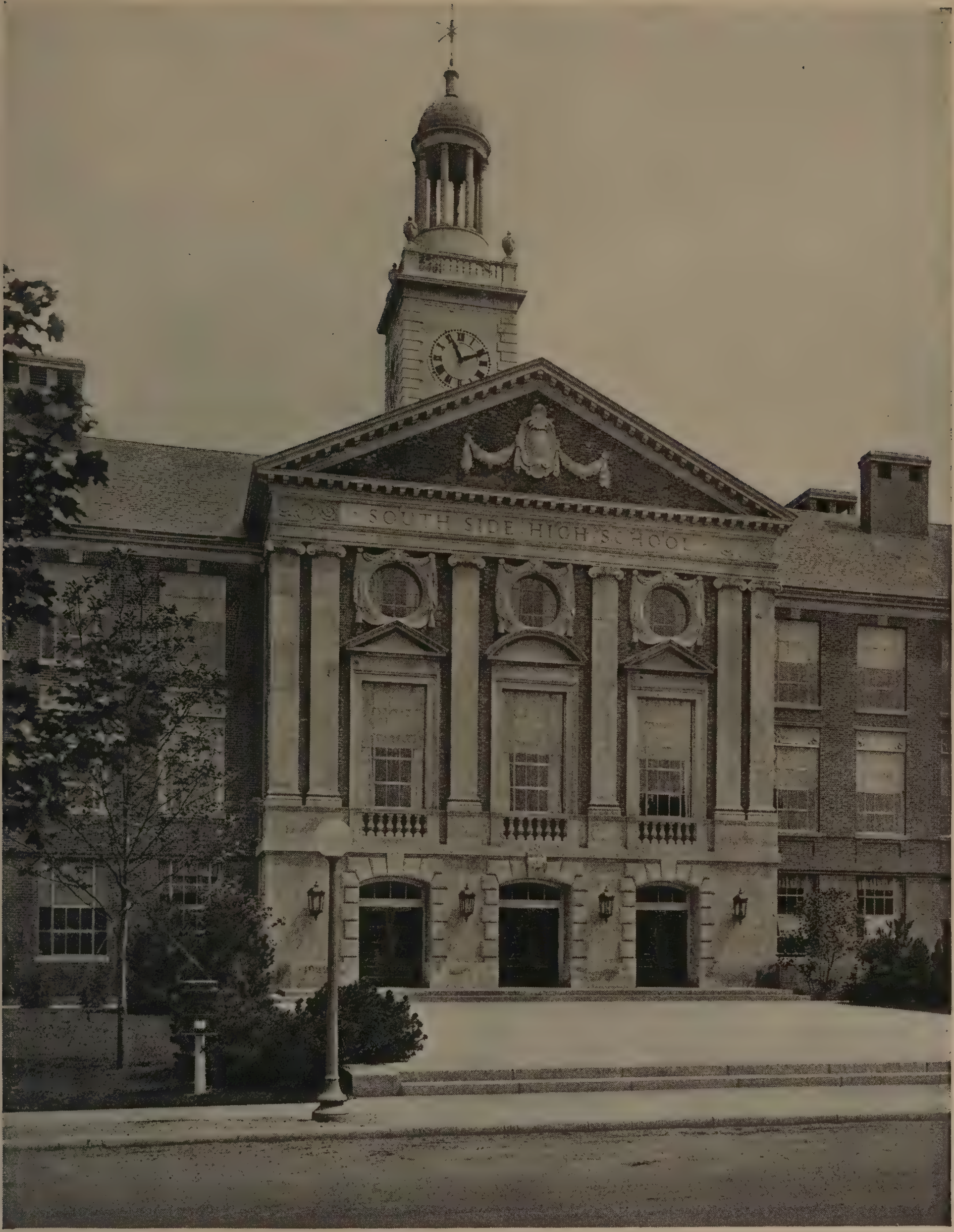
Rear and Side Views

SOUTH SIDE HIGH SCHOOL, ROCKVILLE CENTRE, NEW YORK

Huse Templeton Blanchard, Architect



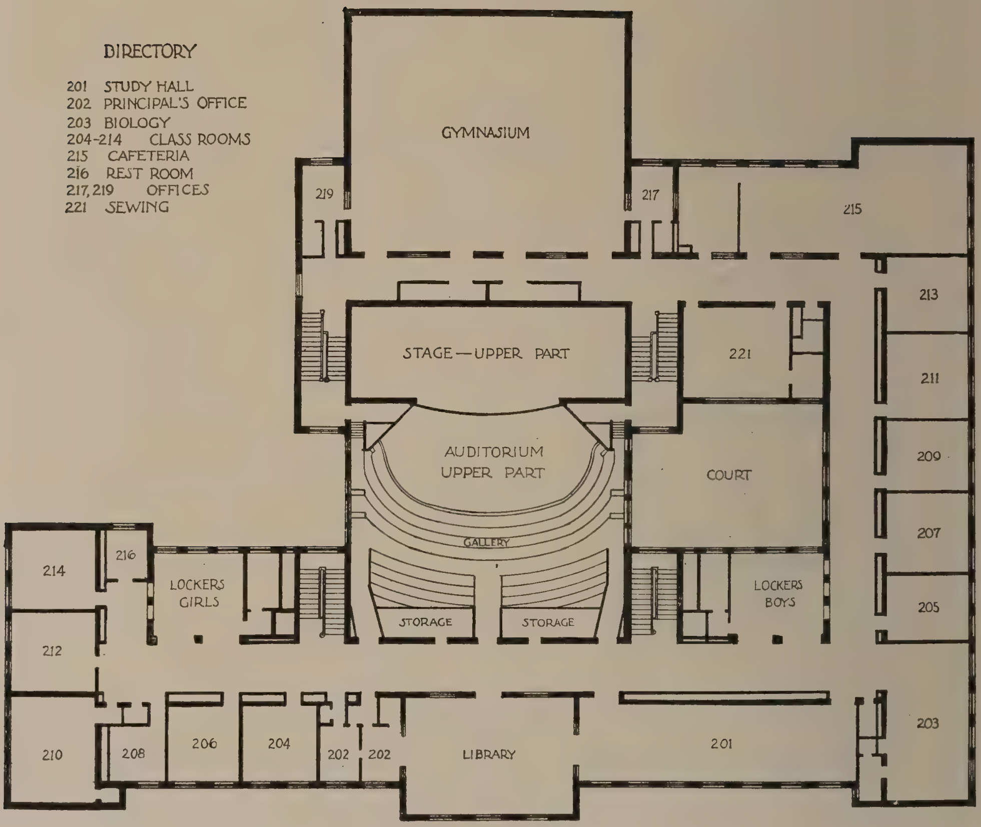
First Floor Plan
SOUTH SIDE HIGH SCHOOL, ROCKVILLE CENTRE, NEW YORK
Huse Templeton Blanchard, Architect



Entrance Detail

SOUTH SIDE HIGH SCHOOL, ROCKVILLE CENTRE, NEW YORK

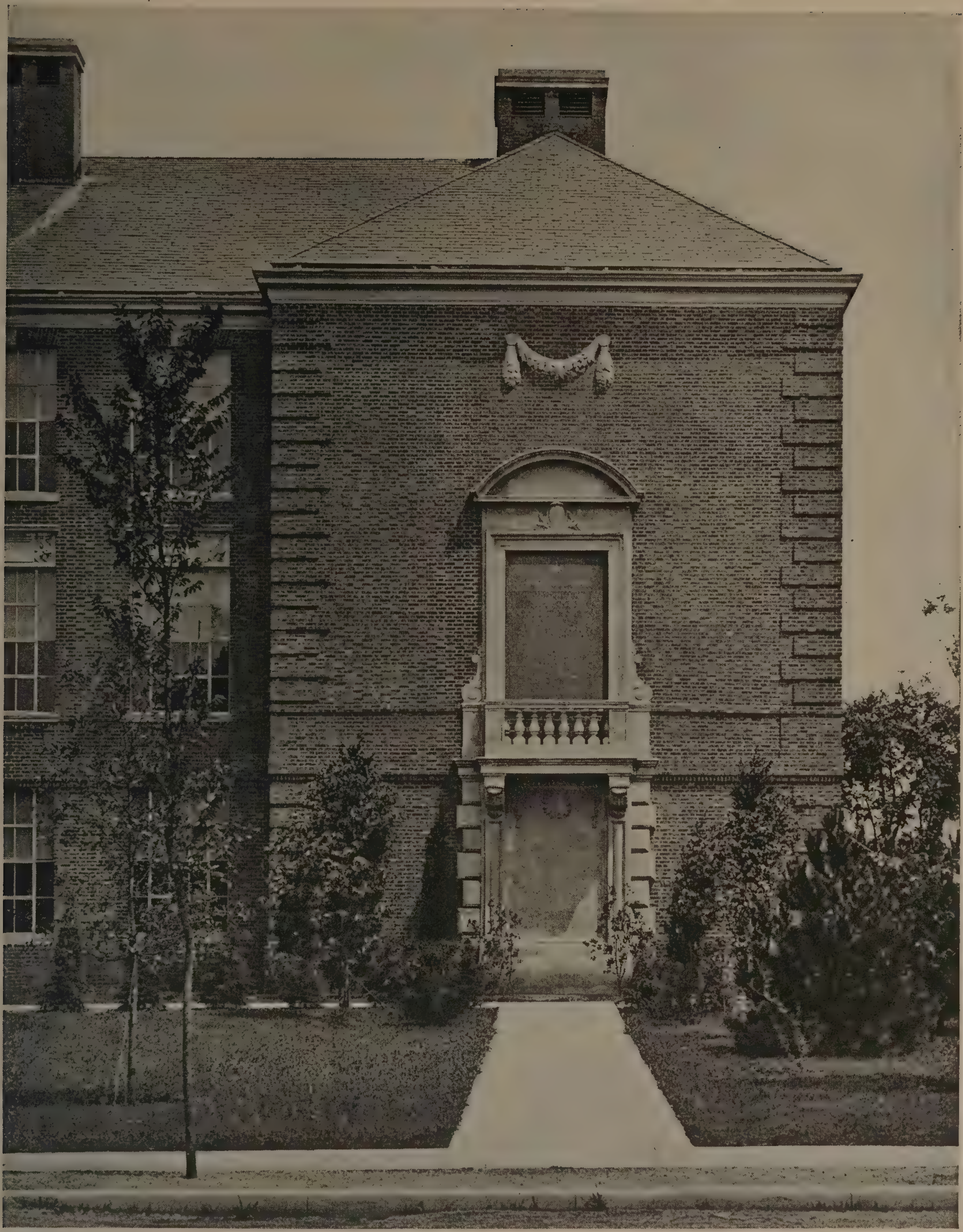
Huse Templeton Blanchard, Architect



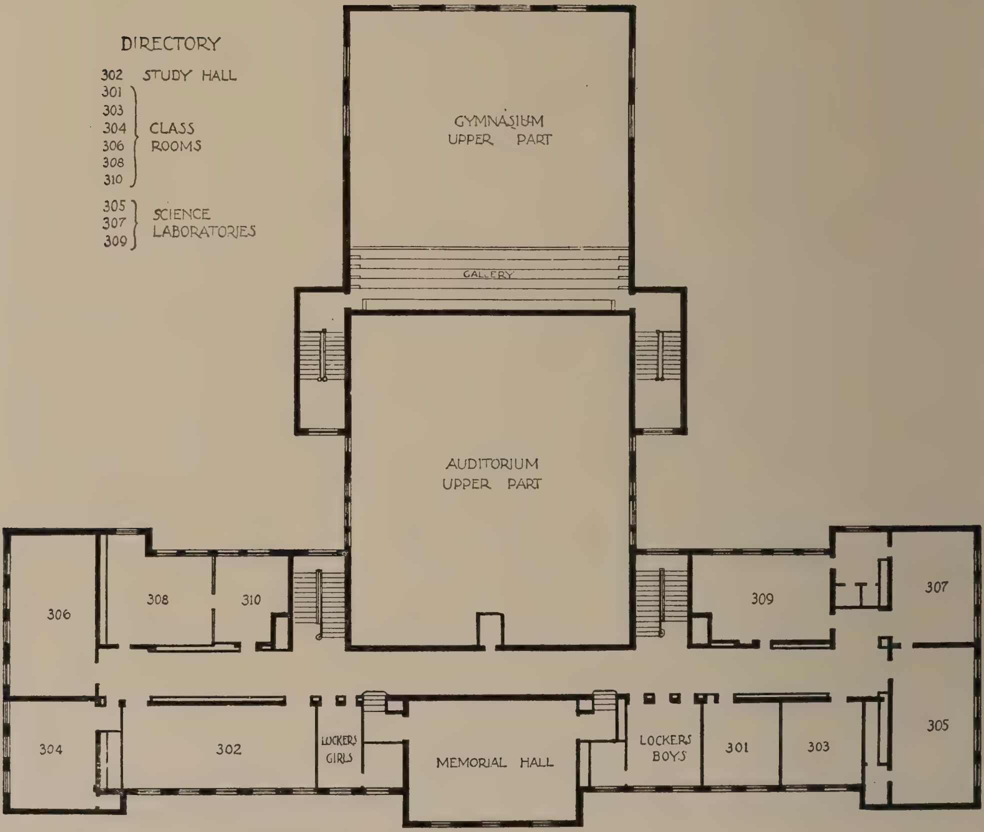
Second Floor Plan

SOUTH SIDE HIGH SCHOOL, ROCKVILLE CENTRE, NEW YORK

Huse Templeton Blanchard, Architect



Detail
SOUTH SIDE HIGH SCHOOL, ROCKVILLE CENTRE, NEW YORK
Huse Templeton Blanchard, Architect



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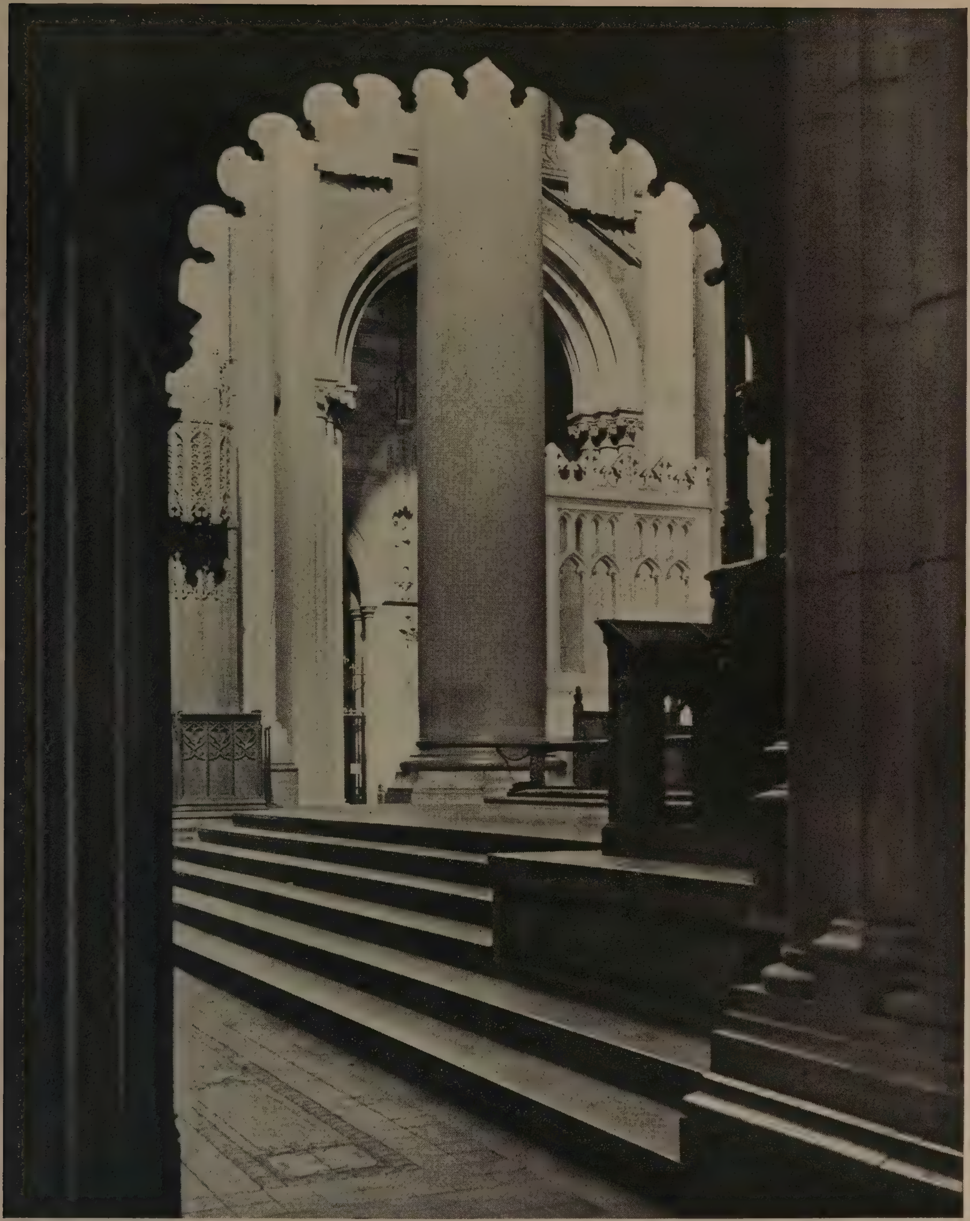
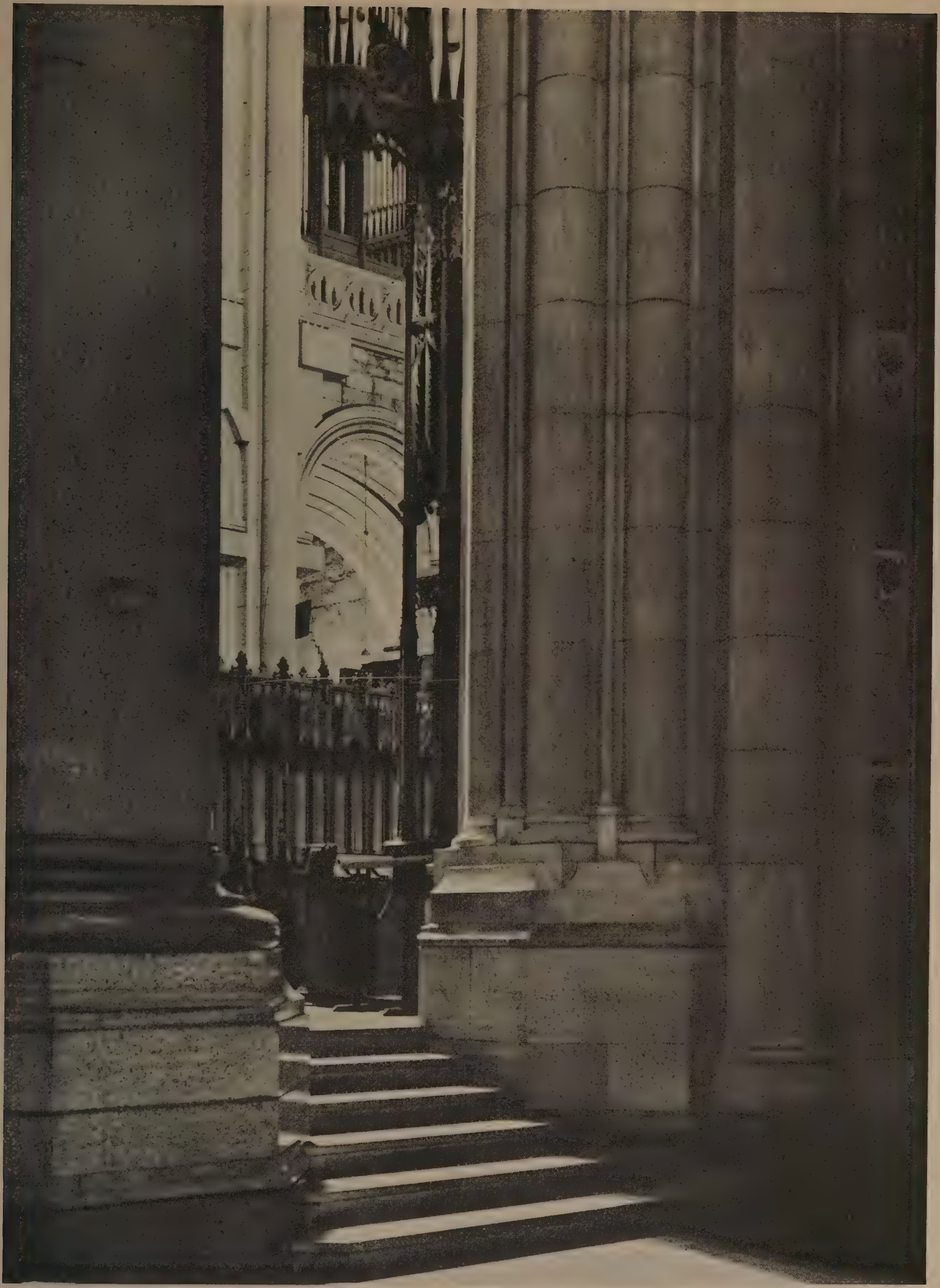


View from Aisle into Chancel
CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK CITY
Heins & La Farge, Architects



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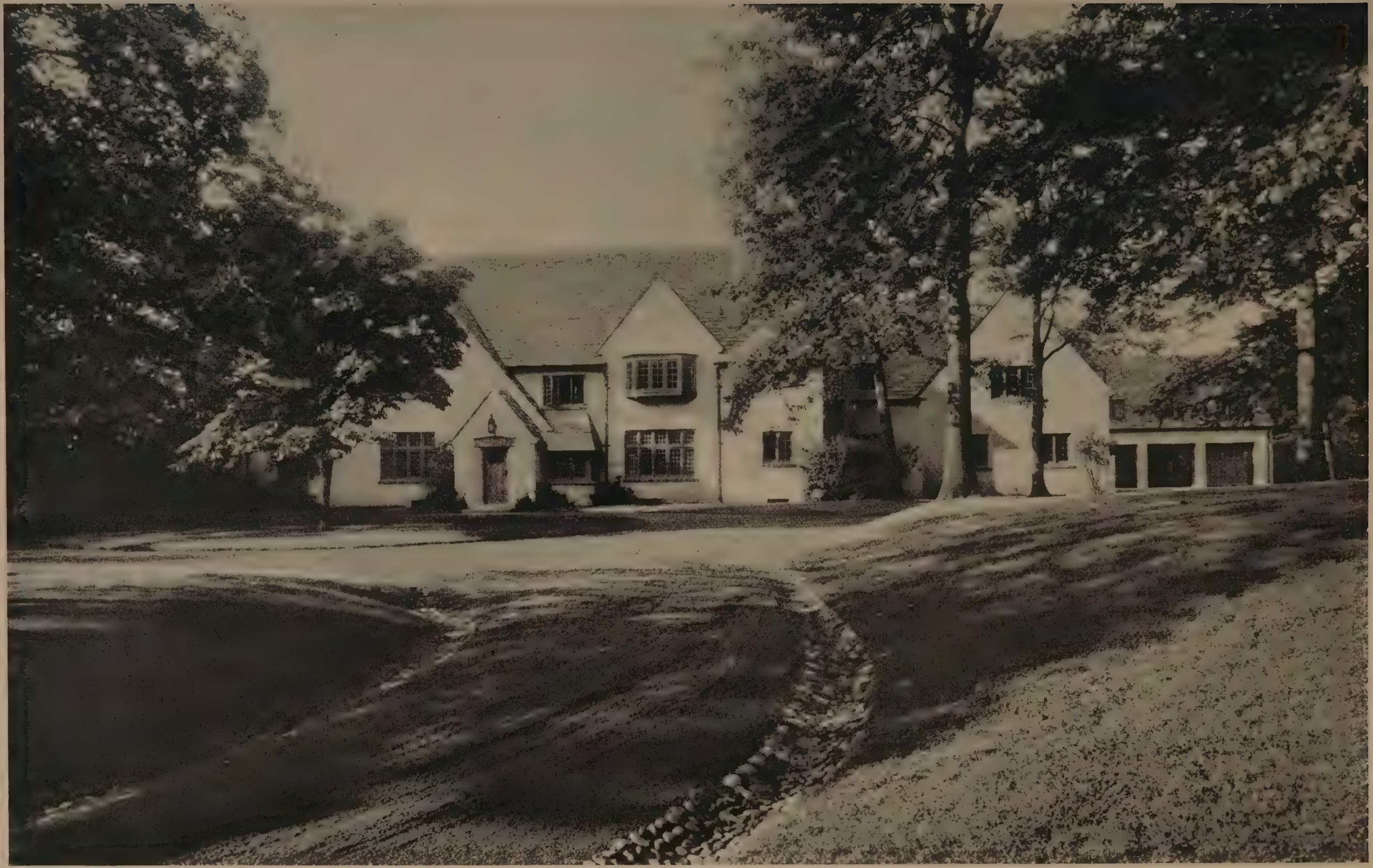
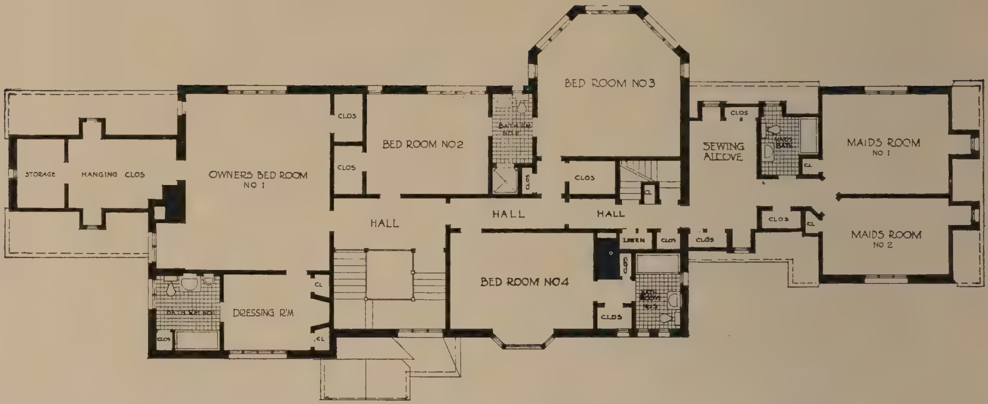
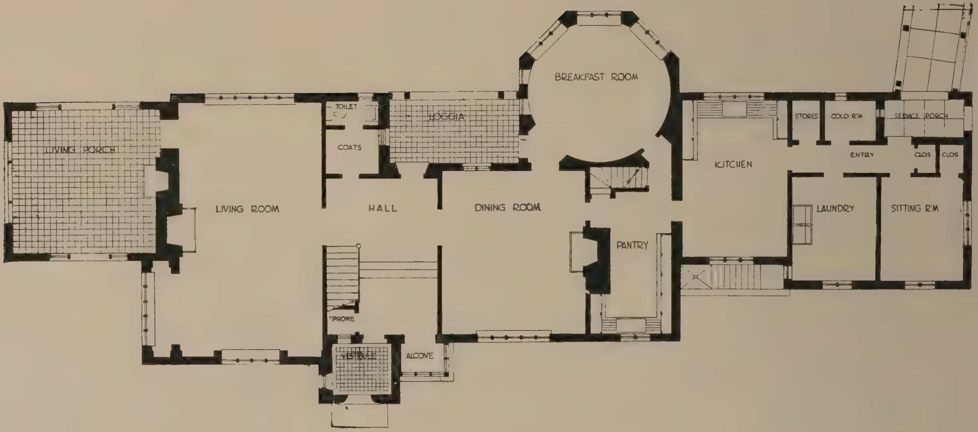


General View

RESIDENCE OF JOSEPH H. GAY, ORANGE, NEW JERSEY
Charles C. May, Architect

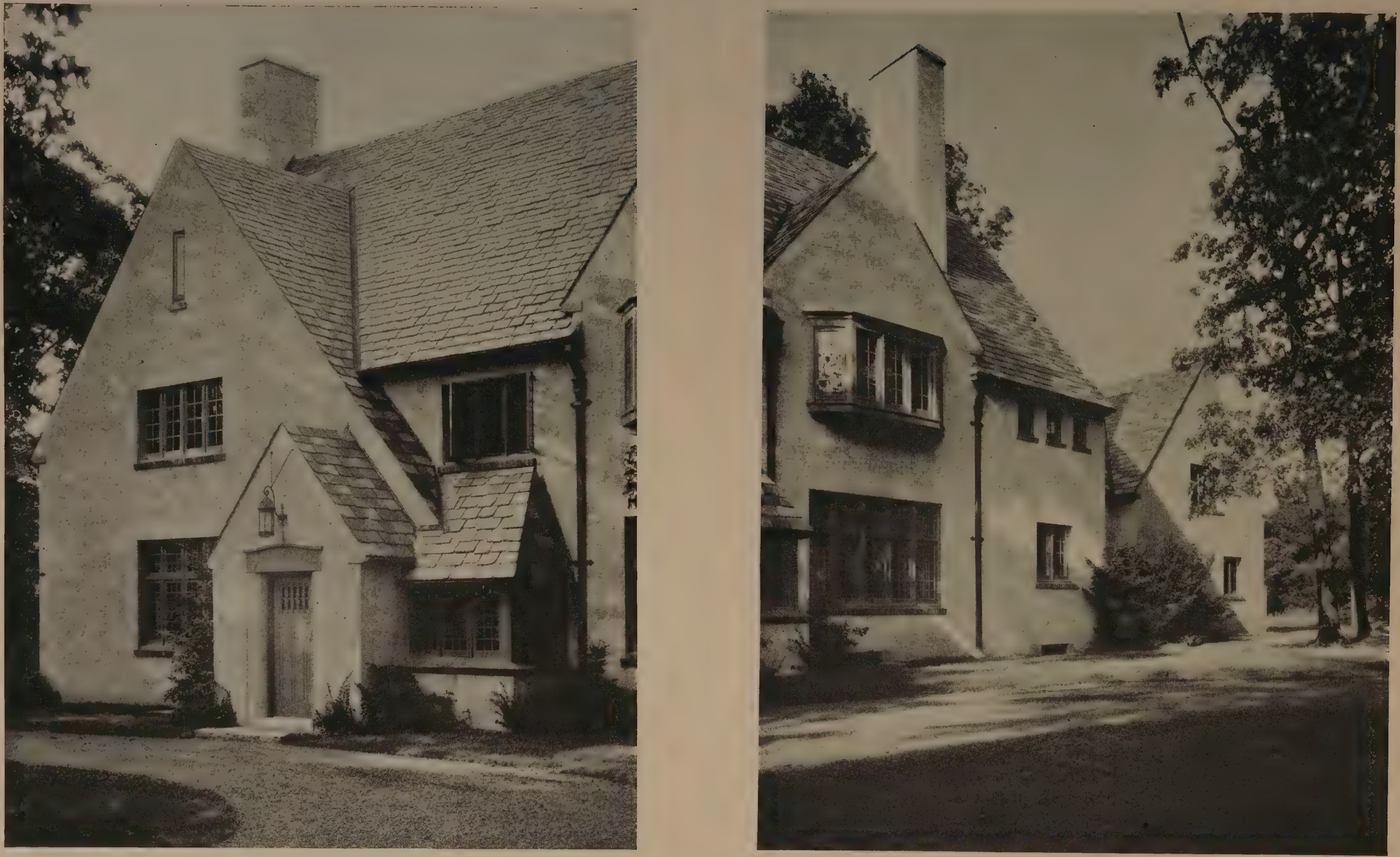


Second Floor Plan



First Floor Plan

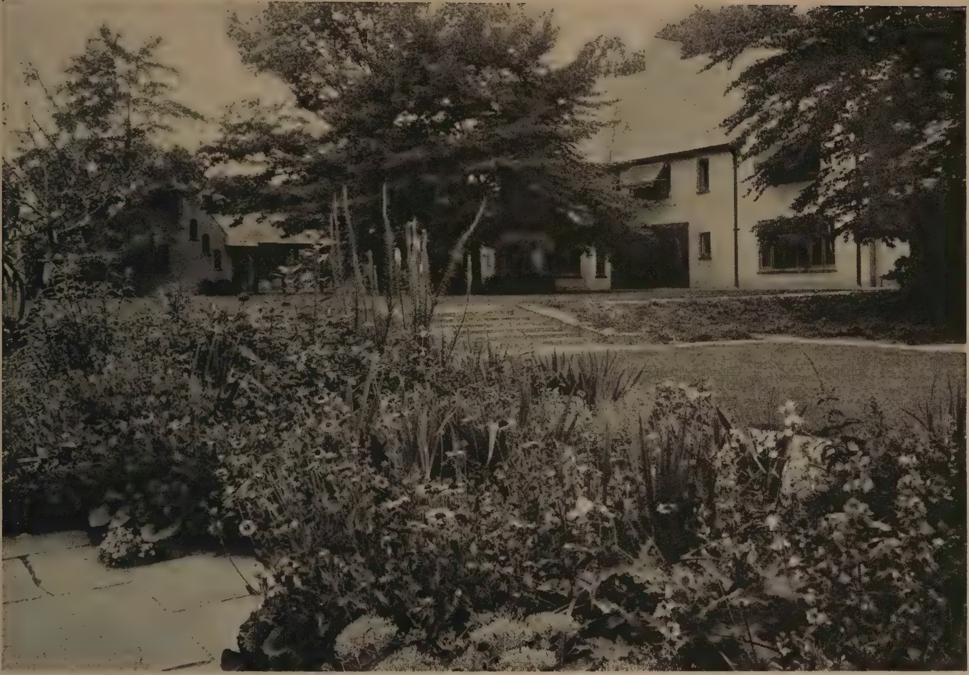
RESIDENCE OF JOSEPH H. GAY, ORANGE, NEW JERSEY
Charles C. May, Architect



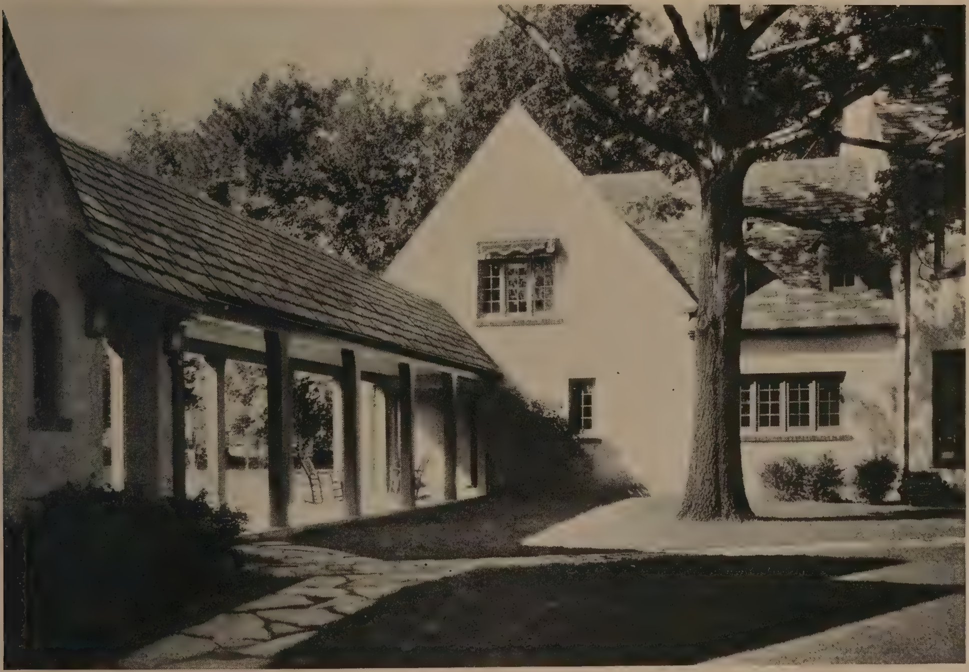
Entrance Detail

Detail of Bay

RESIDENCE OF JOSEPH H. GAY, ORANGE, NEW JERSEY
Charles C. May, Architect

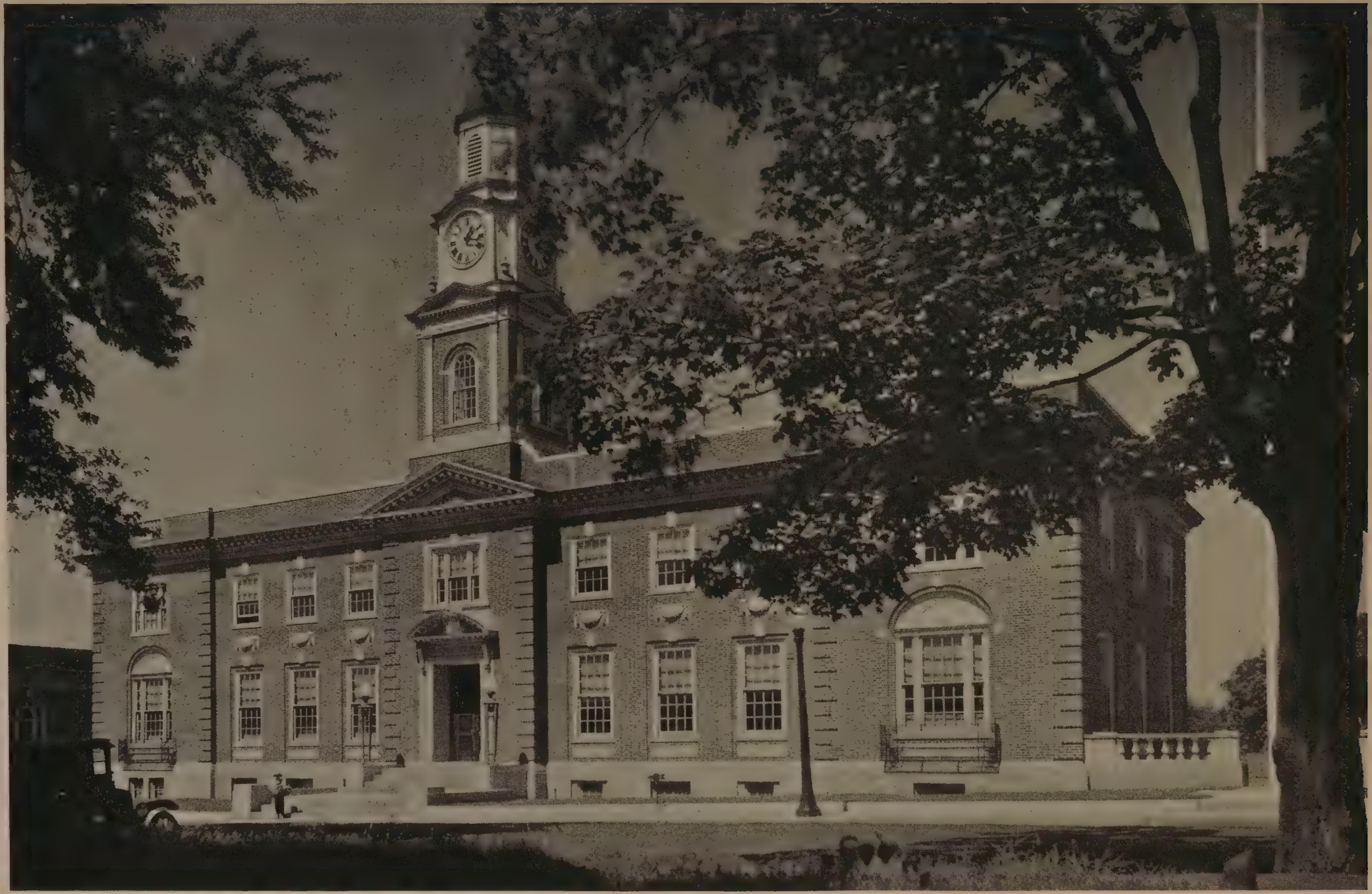


Garden



Garden Elevation

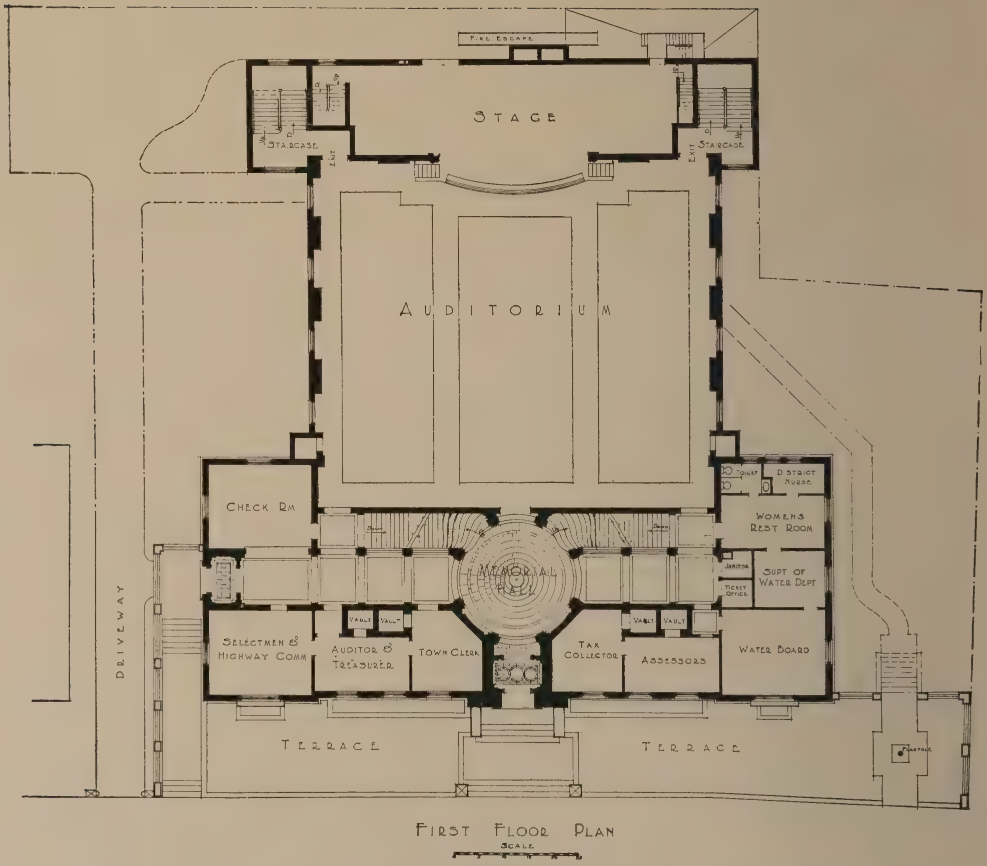
RESIDENCE OF JOSEPH H. GAY, ORANGE, NEW JERSEY
Charles C. May, Architect



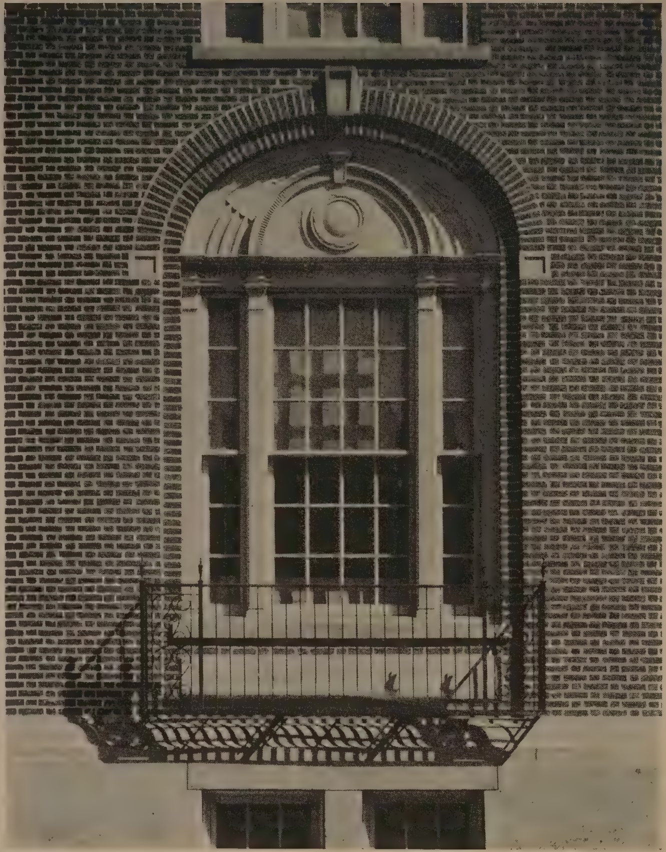
Main Façade

ATHOL MEMORIAL BUILDING, ATHOL, MASSACHUSETTS

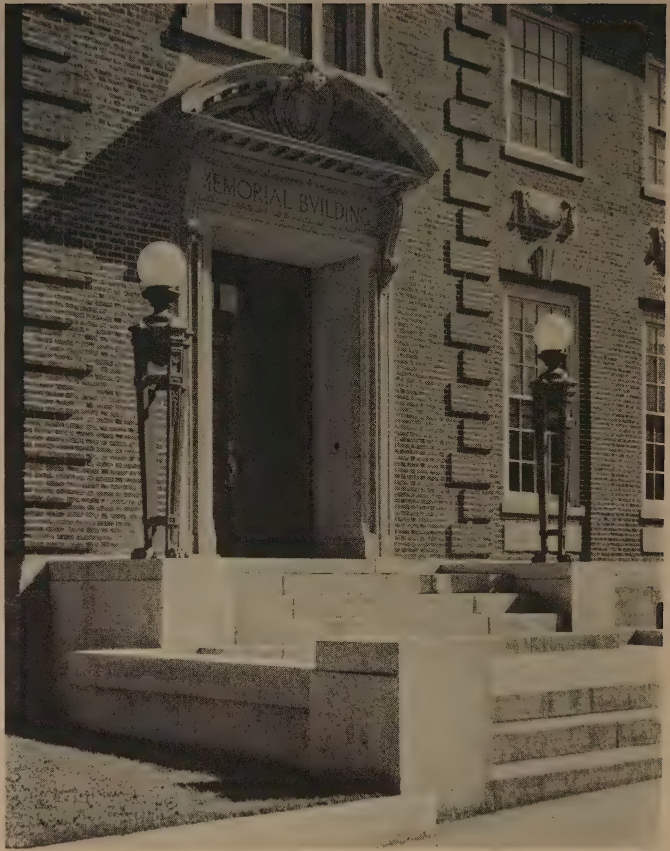
Brainerd & Leeds and Oscar A. Thayer, Associated Architects



ATHOL MEMORIAL BUILDING, ATHOL, MASSACHUSETTS
Brainerd & Leeds and Oscar A. Thayer, Associated Architects

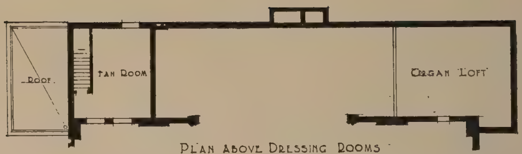


Window Detail

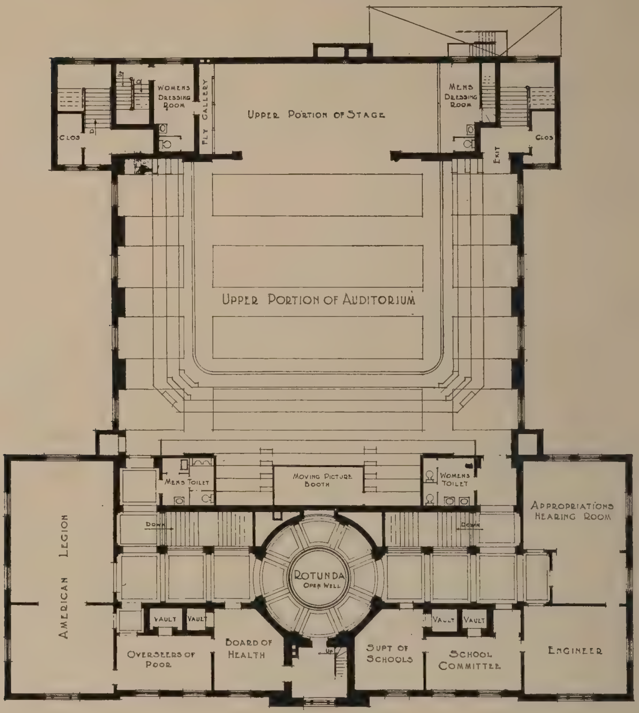


Entrance Detail

ATHOL MEMORIAL BUILDING, ATHOL, MASSACHUSETTS
Brainerd & Leeds and Oscar A. Thayer, Associated Architects



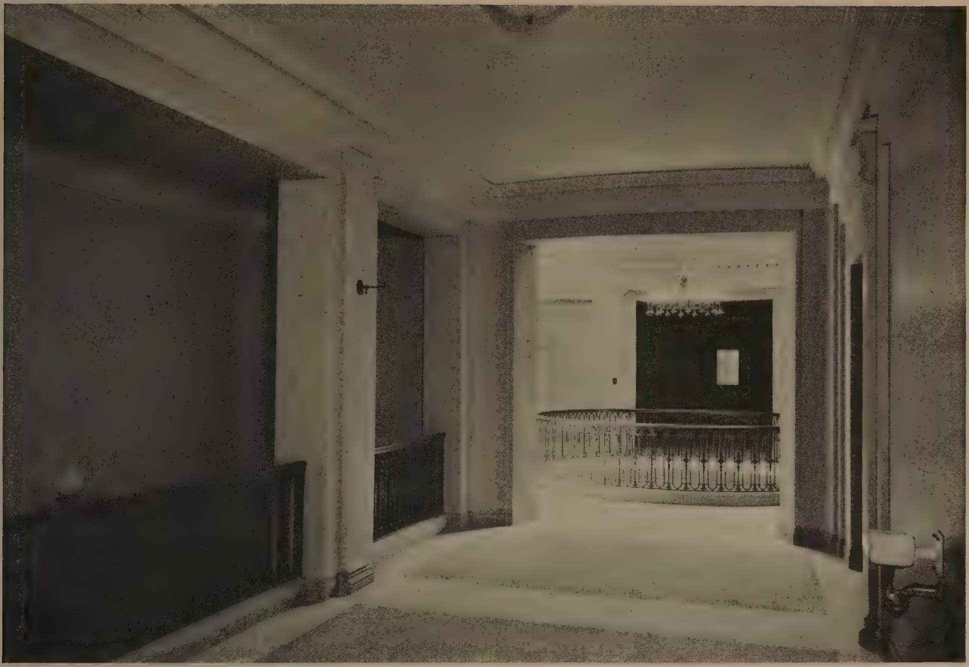
PLAN ABOVE DRESSING ROOMS



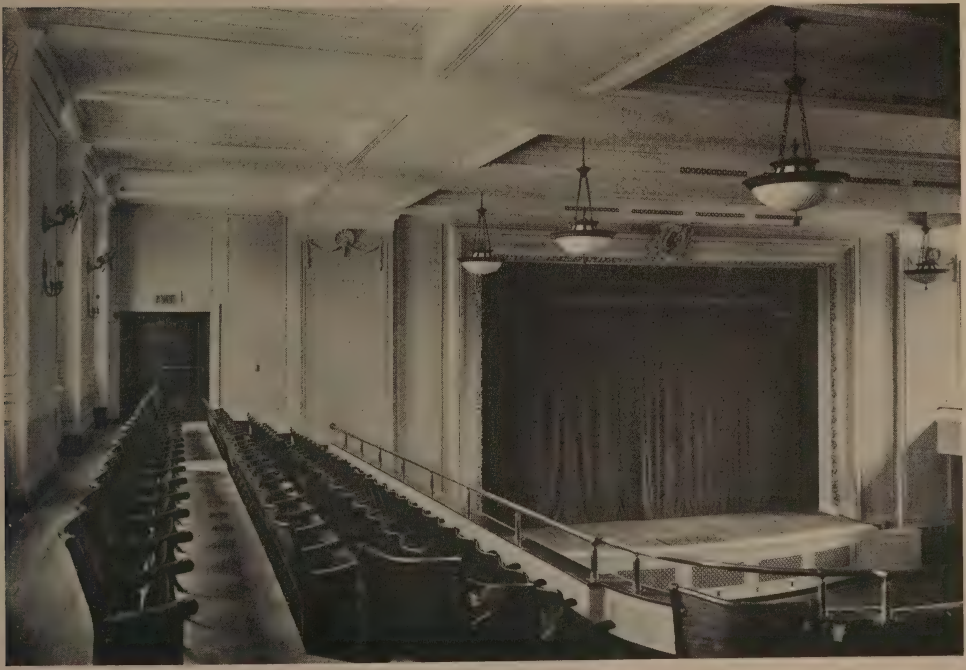
SECOND FLOOR PLAN

SCALE

ATHOL MEMORIAL BUILDING, ATHOL, MASSACHUSETTS
Brainerd & Leeds and Oscar A. Thayer, Associated Architects



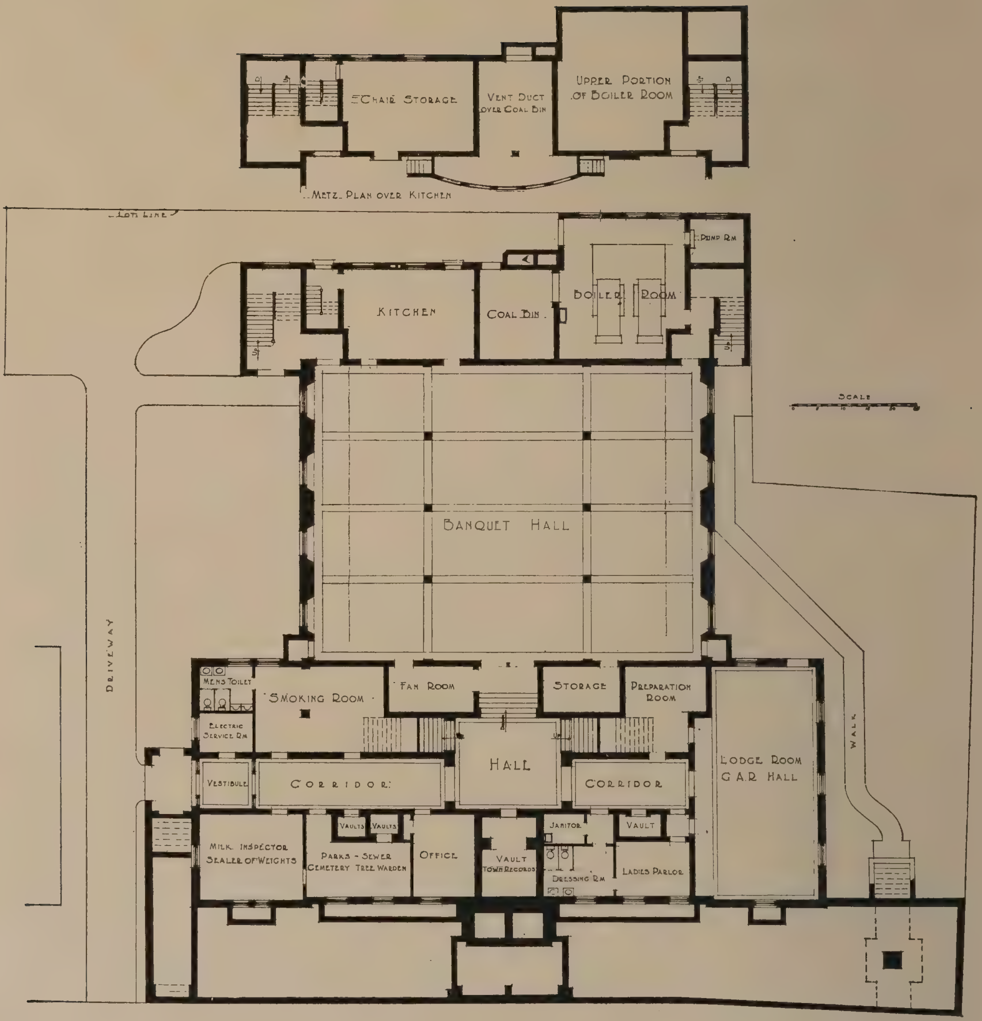
Upper Hall



Auditorium

ATHOL MEMORIAL BUILDING, ATHOL, MASSACHUSETTS

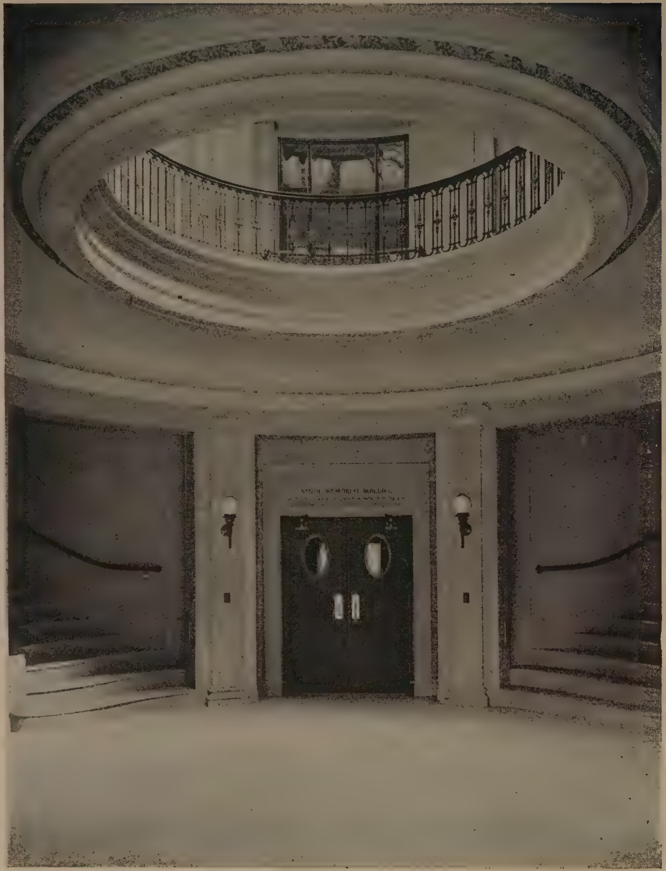
Brainerd & Leeds and Oscar A. Thayer, Associated Architects



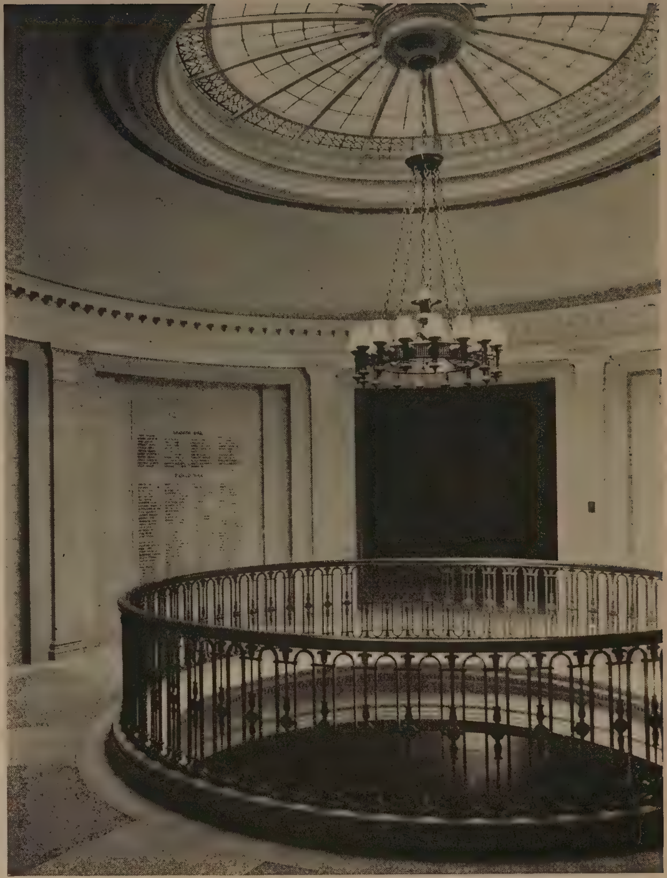
Basement Floor Plan

ATHOL MEMORIAL BUILDING, ATHOL, MASSACHUSETTS

Brainerd & Leeds and Oscar A. Thayer, Associated Architects



Entrance Hallway



Rotunda

ATHOL MEMORIAL BUILDING, ATHOL, MASSACHUSETTS

Brainerd & Leeds and Oscar A. Thayer, Associated Architects

LOW-RENTAL HOUSING

The New Immigration and European Housing, Their Future Effect on American Conditions

By Frank Chouteau Brown

In our analysis of the problems of providing low cost housing to the poorer paid workers in our social fabric (as it has been constituted in the past) we have touched on several phases where it has been necessary to arrest our progress to discover exactly what effect changing conditions might exert on the matter. One of these new conditions that we have ourselves established is the change in our Immigration laws, which operates not only to restrict the number of immigrants that may *legally* enter our boundaries, but also has been so worded as to materially change the character of our future imports. In this connection we must form at least an elementary idea of the housing conditions to which the new classes of immigrants have been accustomed, in order to provide the kind and cost of housing they should find in this country if we expect them to become and remain contented and loyal citizens.

These two matters, together with an endeavor to discover what has been done or is projected in this country along the lines of European progress, should conclude this series at a point where it would contain information of the utmost value to those sincerely interested in the housing problem in this country.

First, let us regard the recent changes made in the classes of our immigrants. In the May article of this series something was said about this matter, although at that time the bill had not reached either its final reading or completed form. Nevertheless, it was passed eventually and in substantially the form that was there presaged.

The immigration bill now in force was signed by the President on May 26. It definitely establishes for three years a quota of 2 per cent. of the number of any nation actually in this country in the year 1890, as the number that may be admitted in any one of the three years. This time limit seems to indicate a disposition to open the subject to further discussion, but the law also contains a provision that after July 1, 1927, the quota which under the above restrictions is something over 160,000 a year, shall not exceed 150,000, a reduction of 7% to 8%, to be divided among the many nationalities concerned. A survey of our population is indicated by this provision, that may produce interesting and unexpected results.

In order to realize fully the peculiarly drastic restrictions of the present law, a basis of comparison may be found in the year 1846, when 154,416 immigrants came into the country, while in the following year the number increased to 234,968. From then on the increase was rapid, and in 1854 it was 427,823. The Civil War caused some interruption, but by 1873 the total was 459,803, and in 1907 it reached 1,285,349. Except for our imposed restrictions it would undoubtedly by now have reached a total of 2,000,000—or more.

From 1835 to 1855, when the number of immigrants seemed so large in proportion to our population, our country was largely unsettled and labor was acutely needed, particularly in the West, where railroads were building and large agricultural sections were being opened up. Therefore, the immigrants were absorbed far more easily than in recent years, during which swarming hosts of foreigners have been dumped down in our most congested centers of population and forced to adapt themselves to new ways of making a living. Perhaps we should have met the problem by taking them at once to inland industrial locations or agricultural districts, to healthier localities with better living conditions than are possible in our swarming centres.

The present bill has limited the number of immigrants, first, by reducing the quota from 3% to 2%, and, second, by arbitrarily basing this percentage on the number of foreigners listed in this country in the census returns of 1890, instead of in the census of 1910, the previous basis of computation. Not only did this change materially reduce the total from around 358,000 to about 169,000, but it also succeeded in so altering the proportioning of this smaller total among the European nations as to reduce, for instance, the Italian quota from 42,000 to less than 8,400.

In 1890 the majority of the immigrants came from the northern countries, and we find that the Germans were then 30% to the Italians 2% of our foreign population, a ratio that was much altered by the census of 1910. We are now admitting 126,000 Germans for 8,400 Italians, or about 15 to 1. Italian labor has always provided us with our cheapest class of unskilled workingmen. The Germans, on the contrary, afford a more highly skilled class of labor, demanding higher wages. As they have been furnished in their homeland with much better living accommodations than we give our best paid labor in this country, they are not likely to be pleased with what we have at present to offer them. Least of all will they contentedly accept our housing provisions when they find the cost of these much inferior accommodations will be somewhere from 8 to 10 times as much as they have been accustomed to pay in Europe. In place of fireproof masonry, detached houses in gardens, or apartments in large groups around courtyards, they will be shown crowded, unclean dwellings, mostly of wood and without attractive surroundings. They will not be within easy walking distance of their work and the expense of transportation will have to be added to their large rentals.

Much the same situation will exist in regard to all the races whose entrance will be favored under our new law. Yet, having intentionally changed the type of our immigration, we can hardly escape the responsibilities accompanying these changes. In these articles thus far we have found no easy means of relief from existing housing conditions. Tax remission, the only parental means we have yet attempted, now stands discredited. The employer in this country is not willing to take on the responsibilities of the landlord, as is done so universally abroad. Our city, state and national government have no adequate idea of the responsibilities confronting them, nor have the taxpayers!

Let us see what has been done in those countries in Europe from which our new inhabitants are coming. What will they expect of us in this "land of opportunity?"

The new bill will admit far greater numbers of the northern races than the old law permitted. People of Germany, Great Britain, Ireland and the Scandinavian countries will be the most favored groups under the new law, as against those from Italy, Eastern Europe and Asia. But the present law does not admit large enough numbers from these favored countries to relieve our labor shortage. In other words, it is definitely intended to maintain a labor shortage in order to force labor costs higher and higher each year. This means more complete control by the labor unions and will operate to make costs increasingly higher, particularly in such fundamental industries as agriculture, building and the clothing trades.

This new law has not been in operation long enough for us to realize that it not only restricts the number of immigrants, but through the change in the proportion allowed from the various nationalities, eliminates all the cheap unskilled labor—the Italians, Czechs, Poles and Russians. The more skilled and intelligent class of labor found in Germany, England and Scandinavia are also apt to be more discontented, so we are introducing more social unrest into trade and professional lines already unsettled by constant labor agitation. Finally—and this is the point of particular pertinence to those readers interested in our national housing problem—all these people have been accustomed to greater cleanliness, convenience and cheapness of living conditions; and while, on first hearing, the wages promised them in this country will sound most inviting, what will be their feelings when they discover that their clothing will cost them three to four times, their food two to three times and their homes six to ten times as much as they were accustomed to pay for such necessities in their own countries: and at that, none of them will be as satisfactory, as convenient or as good!

Will we be making contented citizens in this process, or will we be educating malcontents of a more dangerous because more intelligent class? If we are willing to increase our own living costs in order to secure restricted immigration, are we prepared to find some means of housing them, let alone feeding and clothing them, as adequately and conveniently and cheaply as has been done by their home governments; and if so, how will we set about the matter? That is a point of departure at least, for the present article. What have these particular governments of England, Germany, Belgium, Norway, Sweden and France done to care for their working classes.

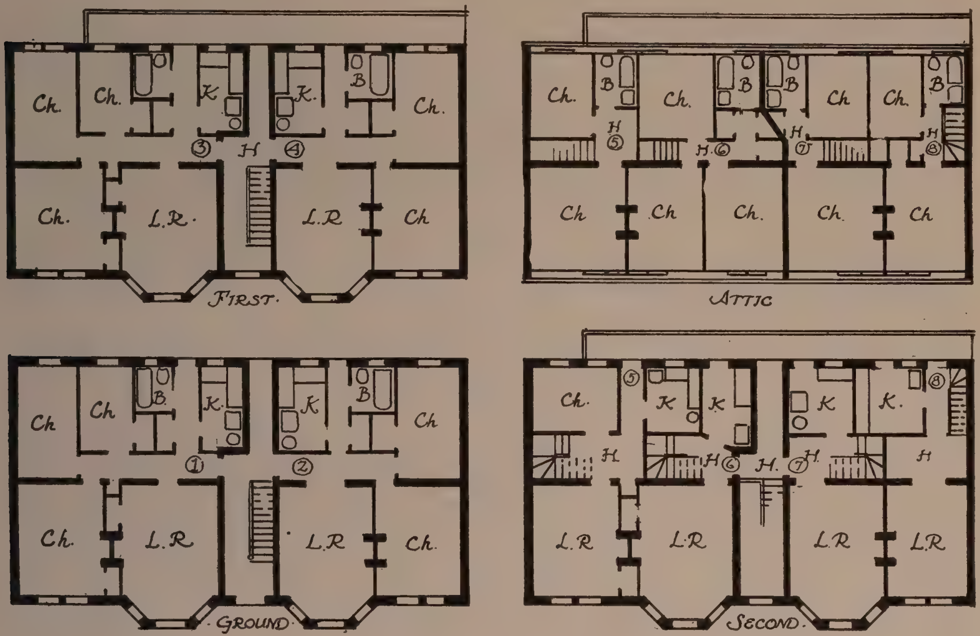


Fig. 42—Plan of Four Story, Eight Apartment Unit
BOROUGH COUNCIL HOUSING SCHEME, BETHNAL GREEN, LONDON, ENGLAND

The government of Great Britain is now under the control of the Labor Party.* What are they doing or do they propose doing to provide low rental housing for their lower paid working classes?

Of course most of us know something about what has already been done in that country. The article in the August issue touched briefly on some of the housing provided by employers for their employees as well as others, and all those interested in the matter of housing know how well established is the English policy of the "Garden City" plan, and the

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*This article was written before the dissolution of the British Labor Parliament.

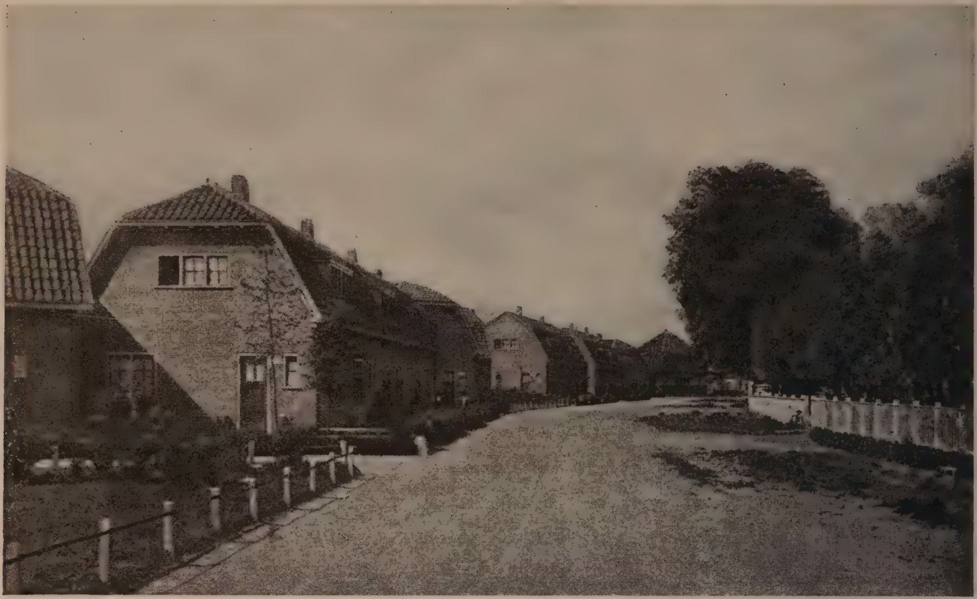


Fig. 43—Street View of Cottage Type of Municipal Housing
GARDEN CITY SUBURB OF OOSTZAAN, AMSTERDAM, HOLLAND

housing suburb with small individual family cottages (Figs. 43 and 44) scattered through beautifully landscaped grounds, available for rental at sums equivalent to our $2.50 to $6.00 a week, even when in London or within a half dozen miles from that city.

England has also provided some apartment types, especially in the larger city suburbs that are often the direct product of the municipalities themselves. During the war the English Government succeeded so well with the housing of families engaged in war industries that a continuance of its parental control, as well as an extension of it in succeeding years along practical and helpful lines, was easy.

A consideration of the most recent steps taken by the British Government toward bettering the housing conditions of the lower paid working class will afford the best view of the situation.

The first big piece of social legislation to be put through Parliament was the Housing bill of the Minister of Health, Mr. J. Wheatley, which takes the general form of an enormous subsidy, increasing every year for a fifteen-year term, with amortization continuing over sixty years. It provides for 2,500,000 houses in fifteen years, beginning with 90,000 next year, and going up to 225,000 annually from 1934 to 1939. This bill proposes to make the working class tenant a yearly gift of from $45 to $60 on his rent, lowering rentals for this amount on new construction. This, of course, cannot be done except by lowering rentals also on all older competitive property, on which the owners can obtain no Government assistance, thus inevitably exploiting the existing householders as a class and causing the departure of capital into other fields.

Undoubtedly, if once put into actual operation, it will offer considerable immediate relief, but it remains to be seen if this can be done without disturbing the return to normal building, housing and business conditions, by arbitrarily depressing rentals below their real economic level. In other words, it will operate differently from the subsidy arrangement, the results of which we have traced in New York, but by the same disturbance of natural forces must bring disastrous consequences in its wake. It also will be impossible to put it into op-

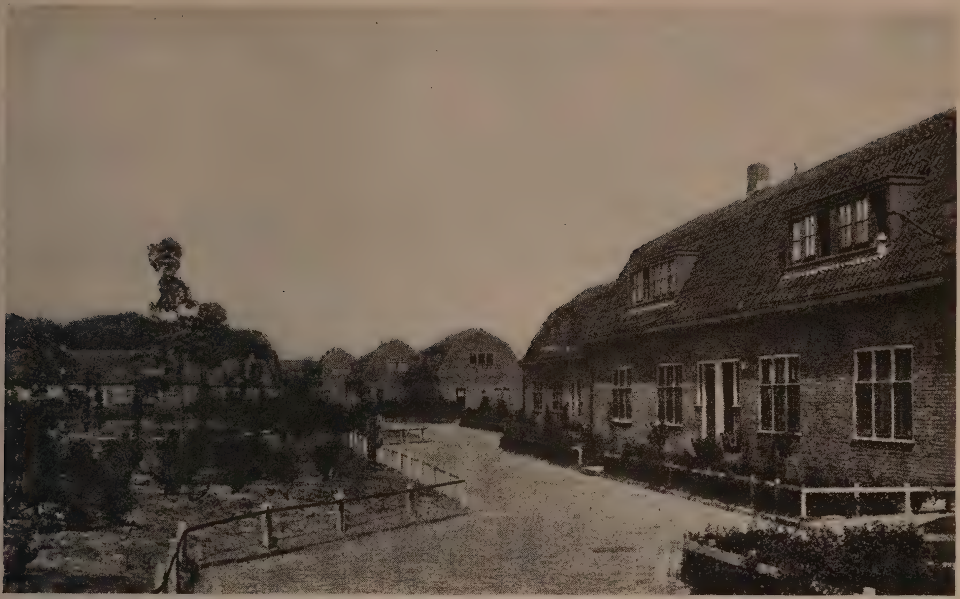


Fig. 44—Cottage Type of Municipal Housing
GARDEN CITY SUBURB OF OOSTZAAN, AMSTERDAM, HOLLAND

eration without mulcting the taxpayer of at least $5,830,560,000—an annual charge of $150,850,000—or about 1% of his national income.

In spite of this the housing shortage in Britain, particularly in the poorer districts, has been so acute each year that no political party seriously opposed this new legislation. It also met with the approval of the builders' and trades' unions, the more so as previous schemes, such as those proposed by Addison and Chamberlain, resulted in an insufficient number of houses. Moreover, those that were erected, as is so often the case in America, did not go to the working people, for whom they were originally intended.

In England before the war there were annually built from 50,000 to 100,000 houses for working families. It was calculated that even this number of new dwellings fell below the total necessary to replace the annual wastage. The war interrupted this process, and afterward no new buildings in this class were erected by the landlord who had previously built them, because of the law forbidding raising of rents above pre-war valuation sufficiently to make construction profitable. With building materials at from two to three times higher than before the war and with wages in the building trades increased, the owner could no longer obtain even the modest percentage that he had been able to eke out on this class of property before the war, and could hardly hope for more than a meager 2% to 3% return. Consequently in England, as in America, the endeavor to remedy conditions by laws interfering with economic principles resulted only in diverting capital that might have otherwise gone into this class of building construction, into other fields. England now finds herself confronted with an estimated shortage of one million homes.

The Wheatley bill proposes to limit the rentals from property improved through this subsidy. It limits the use of the subsidy to specific types of laboring men's houses. The fallacy of this scheme is that, in the endeavor to keep the rental of workmen's houses below the natural economic level set by the evaluation of other business conditions, a subnormal return is received from the capital thus invested. This automatically cuts down all new building, and the taxpayer, already much overburdened in England, is asked to step in and carry the load. Either he or the landlord must meet the deficit. To maintain a proper economic balance the worker must be given a wage large enough to pay an economically fair rental for the property he occupies. Otherwise our entire economic system must inevitably be upset. If he *is* paid a larger wage, by the time that increase reaches the consumer it will have doubled or trebled; on the other hand, if the tax is increased an equal amount, it will also be increased before the burden reaches the taxpayer, as a result of the general inefficiency in government disbursements in contrast to the economy with which similar business is carried on under private control.

Once the natural levels of supply and demand are disturbed, the end cannot be ascertained. Mr. Wheatley has already cause to suspect that the demand for building materials necessary to carry out his program will cause unusual disturbances in the scale of prices and so has asked for dictatorial powers, with fines and jail sentences for those who attempt to profiteer unduly. This demand, along with other evidences, already indicates that this elaborate government program is likely to fall apart by its own weight and its lack of understanding of the true industrial and financial conditions.

No fixing of prices by law has ever long survived. We have had instances with wheat, silver and other commodities. "Pegging" of prices has been difficult, even in war times. When undertaken for so long a period as fifteen years it becomes an obvious impossibility. The whole scheme is founded besides on a weak link —the labor unions. Their hearty coöperation is necessary for its successful outcome and labor has never worked so well nor so steadily for the Government as it has for the individual.

Under this bill a working man who desired to buy a house could choose between three methods. He could rent a municipal house at perhaps fifteen shillings a month; he could borrow from a Building Society to build himself under the Small Dwellings Acquisition Act, or he could join a Public Utility Society and have his house constructed with their assistance.

In working under the provisions of this bill the local authorities have a Government subsidy of nine pounds per house for forty years, to which they may add a Municipal subsidy of four pounds, ten shillings per house. The rental allowed is only the pre-war rate, plus a 40% increase, and the house thus constructed *must* be let and not sold. Legislation is also proposed for increasing the number of apprentices and shortening the length of their apprenticeship, though how this is to increase either their output or their skill is not explained. On the material side, the brick manufacturers are to be required to provide the quantity needed in this gigantic program at a charge not to exceed the January, 1923 prices, and other materials are to be correspondingly limited in price.

From all this it is evident that the building field in this class of construction will be left largely, if not wholly, to Government enterprise, and that the behavior of labor under this kind of employment is not likely to be such as to make it a profitable experiment; that what success *is* secured can be obtained only at the cost of the landlord class, and that the taxpaying classes will foot the bill for any deficit! This hardly appears any more plausible a venture than our own experiments with a subsidy in this country, and its failure may prove dangerous for the Labor Party in England.

Most English housing, as we have already shown, even in London, is likely to be of the cottage rather than the apartment type, with dwellings and surroundings similar to those shown in Figs. 43 and 44. Of a number of reconstructions undertaken by the London County Council, however, a few have been four or five-story apartment houses of a type practically unknown in this country, although in use on the Continent. It possesses certain advantages, particularly in the class of rental property we would generally term "walk-up" apartments.

Take a four-story structure, for instance, such as the Borough Council has lately started at Bethnal Green. Here a considerable area has been cleared and will be given to seven blocks of buildings containing a total of 86 flats and 80 "maisonettes" (Fig. 42). The two lower stories are given over to apartments consisting of living room, bath, scullery and either two or three bedrooms. Two apartments open from the landing on the ground and first (what we would call the second) floor. The public hall and staircase continue to the floor above, which is the living floor of individual "duplex" apartments (as we would term them) with their bedrooms located on the next floor above; thus all the upper apartments may be reached by going up only two flights of stairs, the tenants having a private stair to their bedroom floors.

The English also have worked out an ingenious device which in some portions of this country would be open to the same objections as the "open stair" tenement. From the top of the second flight of public stairs a passage opens on to a balcony that generally continues across the house at front or back (Figs. 42, 48 and 49). By means of this balcony access is obtained to the portions of the upper floors that are farthest away from the public staircase, thus securing two apartments for these two upper floors, both renting at more than would be obtainable for the top floor otherwise. The outdoor balcony is always clean, light and well ventilated, as are the apartments opening from it. There are no dark corners or halls to be kept clean, which saves janitor service. The balcony is always available for use as a "porch," and a means of egress (fire escape) in case of fire and panic. In Fig. 42 is shown some sketch floor plans of such a plan arrangement as it has been developed, illustrating all four floors in order that the scheme may be fully understood. The exteriors of these English apartments are, in the best examples, always successful exponents of the simpler forms of direct brick Georgian composition, depending for their effectiveness on the good proportions of the openings, their sturdy framework, and the cheerful contrasts of white paint and red brick.

Holland and Belgium have done much along the line of Low-Rental Housing. In Belgium there exists the *"Société Nationale des Habitations et Logements*

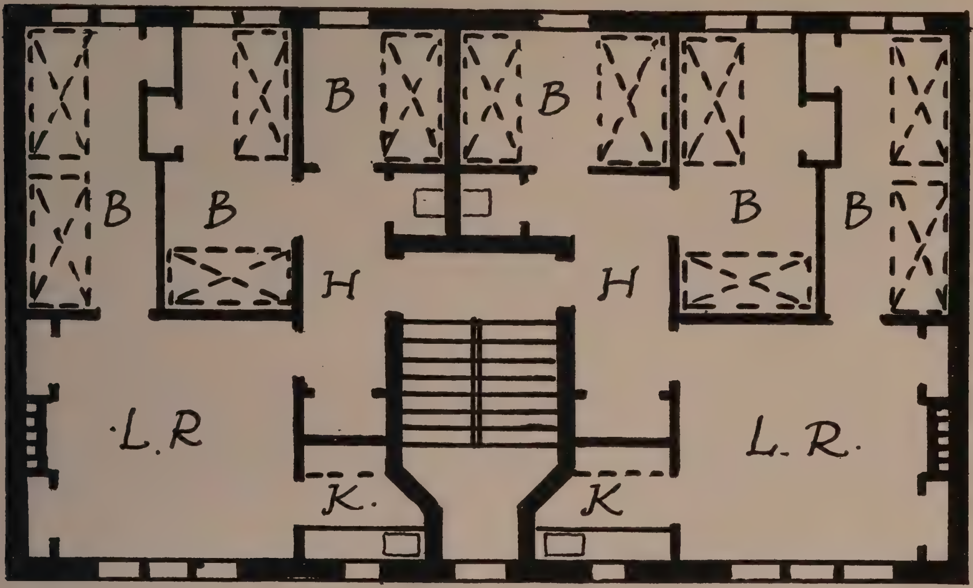


Fig. 45
Plan of Apartment Unit, Municipal Housing, for Large Families

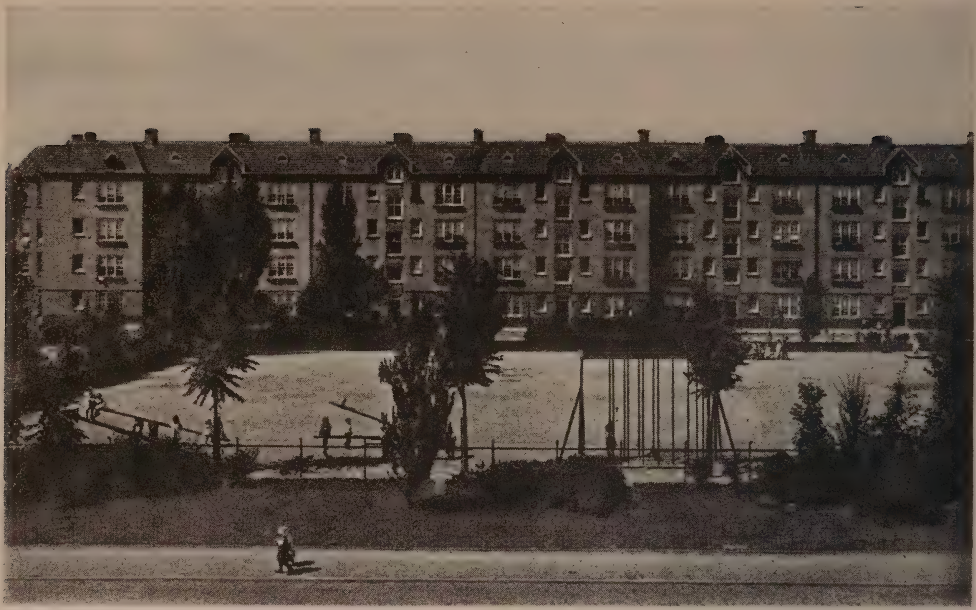


Fig. 46—Façade on Playground
APARTMENT BUILDING OF MUNICIPAL HOUSING DEPARTMENT, AMSTERDAM, HOLLAND

à Bon Marché" consisting of joint stock or coöperative societies. Of these there are three types whose interests are in Local, Industrial or Coöperative Housing, with dividends limited to 5%. Here the well-thought-out financial basis of encouraging or supporting housing operations by public funds is well worthy of special consideration. It is similar to the schemes employed by all the other governments that have been most successful in achieving actual results.

The Government has established a credit of 355 million francs, in addition to 150 million available for use in 1924. This money is to be used for loans for construction of certain accepted types and may run for 66 years at 2% interest. Local capital may be subscribed, and supplemented by one-fifth of the value of the housing supplied by the state, and another fifth by the province, both funds being available for Local or Industrial housing by employers. The National society lends up to five times the amount subscribed or five-sixths of the total building cost, for all housing used for the needy, invalids, ex-soldiers and for those dislodged by the war. For industrial housing the employer must subscribe more of the total amount, State and National sources lending about two-thirds of the total building costs. For coöperative housing the tenants subscribe about 3,000 francs each, the State and Province about one-fifth of the cost each, and the National Society may lend five times the amount subscribed, or about five-sixths of the total cost. If there is a deficit in a well managed society, relief may be also given to the extent of one-quarter interest and repayment charges.

Unlike the English regulations, these societies are encouraged to sell completed houses in order to replenish their funds, and then re-employ the amounts thus secured in new building. Both prices and the class of occupants are controlled by the Minister of Finance and Labor, and a State subsidy of 2,000 to 3,600 francs may be allowed. The purchaser may also borrow at the rate of 4½% to 5% from the Credit Society, while the Province may also give a subsidy, available to permanent *purchasers* only.

By November, 1923, 249 Societies had

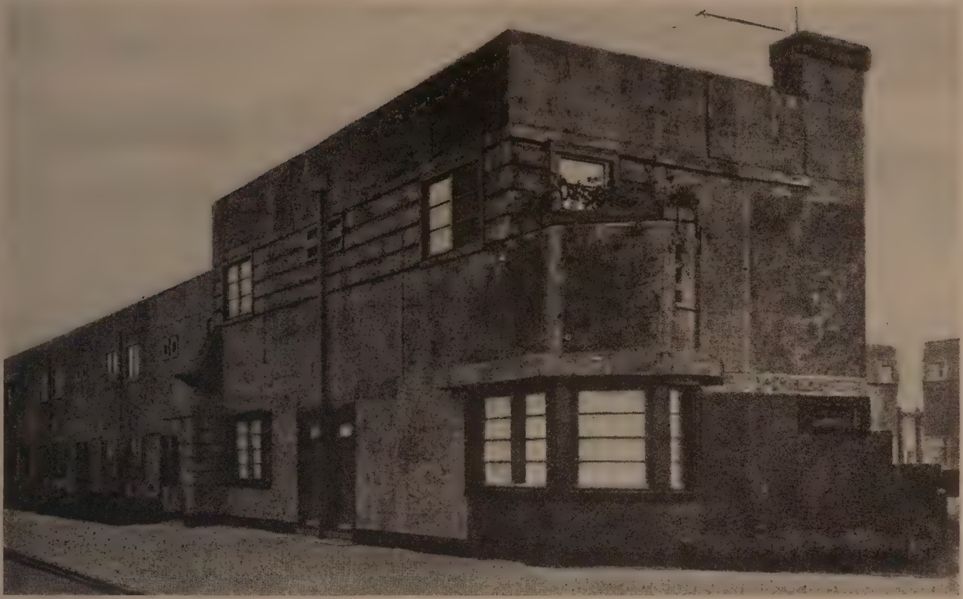


Fig. 47—Concrete Flat Roofed Houses
MUNICIPAL HOUSING DEPARTMENT, AMSTERDAM, HOLLAND

been approved, 1,524 houses had been built under this plan before the war and 8,000 since, up to June, 1923, when 10,600 more were being built. Over 500 had been sold and the proceeds were being used to build new dwellings.

In the Netherlands the methods of securing up-to-date housing accommodations are somewhat different. In the larger cities, Amsterdam for instance, an earlier tendency had been evidenced for higher buildings than are now permitted. Originally dwellings of four stories were allowed in certain sections. But laws passed in 1912 reduced the height limit to three and in 1919 it was again reduced to two stories, for certain residential districts. For all cities over 10,000 population the Municipality is obliged to provide for the systematic extension of housing from year to year. For such extensions the Government advances money for purchasing land in those cities where the town does not itself already own its land. Amsterdam owns and leases all land within its limits, thus securing a permanent income and complete control of the uses to which the property is put.

The Government also grants advances to Municipalities to enable them to lend money to landowners unable to afford necessary improvements in all old, run down properties; for the laws require surveys of existing housing and demand improvements upon it at regular intervals. This, unlike the custom in America, sometimes causes landlords to rebuild old property instead of merely continuing forever to repair it piece by piece. The result produces more modern and clean living conditions even in the oldest, most rundown dwelling portions of the cities.

Cities are also required to commandeer bad quarters and clean out and rebuild these sections with modern housing, the Government granting advances to the municipalities and sharing any deficits both in land purchase and in low rentals. These advances are made at the same interest rates the Government itself pays, and redemption is by annuity, operating in from fifty to seventy-five years. It is made a condition of these loans—both to building societies and municipalities—that profits are to be applied to further improvements in local housing. Both the planning and the letting of all premises thus subsidized are under control of the

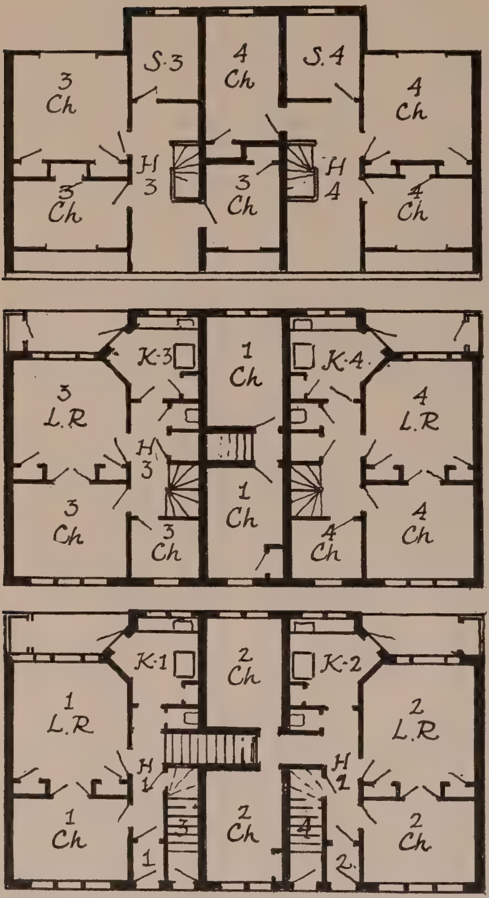


Fig. 48
Plan of Four-Family Apartment House with "Inserted Section" of Additional Bedrooms in the centre

Municipality and the Government. One of the stipulations made by the Municipality as a rule, is that it may take possession for debts incurred by the building societies, so that, at the expiration of the loan, the Government may come into possession of all such property at little cost.

In Amsterdam, since the recent act went into effect, building societies have built and let 11,253 dwellings, have 1,640 in process of construction and 2,670 projected. Private enterprises with Municipal assistance have let 6,799 dwellings, have 4,857 in course of construction and 4,816 projected. The Municipality has built and let 6,335, has 474 in course of construction and 1,570 are projected.

During the war the increased costs of building necessitated the raising of rents to a point where needy families were unable to afford them. In such cases the Municipality arranged with the societies erecting such houses to pay these extra expenses itself for five years in order to keep the rental within the means of the poorer classes of occupants.

Later the Government contributed 75% and the Municipality the remaining 25% of these enforced increases, both in material prices and interest rates, which had risen from upwards of 3½% before the war to 5% or higher. This arrangement continued to 1919, when the Government stopped its double contribution, but continued to bear with the Municipality its full proportion of the deficit still being incurred by renting these houses at low figures. All tenants whose income exceeded a certain figure had to pay a higher rent. Later still, a part of this increased expense was added to the rents, increasing from 50% of the higher building costs upward.

Immediately after the war, to encourage building by private builders, premiums were offered for the erection of dwellings not exceeding 450 cubic meters, for the use of artisans of the lower middle classes. These premiums were, in Amsterdam, a maximum of 2,500 florins (about $1,000) and 2,200 florins ($880) for the rest of the Netherlands, and were gradually reduced as conditions became more normal. During 1921, '22 and '23 the Government paid a premium on a total of 83,825 dwellings.

The oldest public utility societies, whose interest it was to improve housing conditions at cost or near cost, date from 1852. Eight of these societies built over 2,000 dwellings, mostly of two rooms, sometimes with kitchens and always at extremely low rentals. These houses are, of course, of rudimentary design, often built back to back, with a common stairway, but they answered an immediate need. Later, certain types of houses providing special accommodations for large families were built, with the financial assistance of the Municipality.

The Municipality of Amsterdam built

dwellings for rental as early as 1874. In 1914 the City undertook to erect 3,500 dwellings for rental below cost to people who could pay only as much as $1.00 per week. Owing to the war the costs of construction were nearly double those estimated, and consequently these structures were finally let to a higher paying class whose housing needs were equally imperative, and the lower paying groups were accommodated elsewhere, partly in temporary emergency houses. These dwellings are still in use, both because of the housing shortage and because they meet the needs of a number of people whose income and ways of living do not render them eligible for permanent Municipal dwellings. Recently the rise in the price of bricks and in the wages of building laborers has caused the City of Amsterdam to experiment with small apartment buildings of concrete and other mechanically handled materials, in the endeavor to arrive at lower cost methods of providing low rental dwellings (Fig. 47).

A Municipal Housing Office has charge of the letting of these City-owned dwellings, of which Amsterdam has now 5,044 permanent and 1,182 temporary. Each housing group has generally a resident woman inspector, who collects rents and keeps in touch with the tenants, endeavoring to guide those among them of the lower social status toward better standards of living.

Great care is necessary in assigning new buildings. People capable of paying rent, but with not too large an income, are selected; and to avoid overcrowding the size of the families is considered, not too many children being permitted in one house; not two bad families side by side, nor a bad beside a respectable family.

Of the permanent buildings now owned by the Municipality, 1,373 were taken over from societies at a cost of 4,120,000 florins ($1,648,000); 2,671 were erected at a cost of 22,374,000 florins ($8,949,600)—the greater part being borrowed from the Government—and 1,000 more, along with the 1,182 emergency dwellings, whose cost was apportioned between the Government, 9,967,000 florins ($3,986,800), and the Municipality, 3,723,000 florins ($1,489,200).

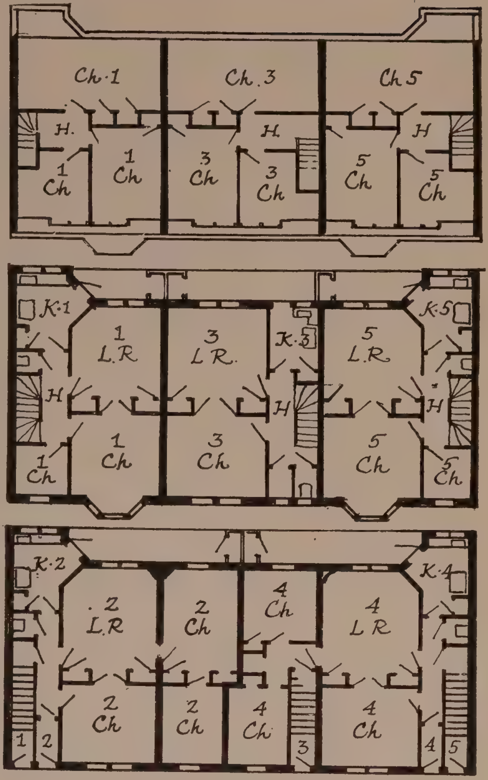


Fig. 49
Plan of Five-Family Apartment House, Two 5-Room Ground Floor Apartments, One 6-Room and Two 7-Room Duplex Apartments One Flight Up

Aside from the last group, 649 dwellings only are self supporting, and a deficit in the letting of 3,395 houses is shared between the Municipality, paying 364,000 florins ($145,600), and the Government, 347,500 florins ($139,000). All repairs are done by the Municipality, employing a permanent staff of 65 to 70 workmen of various trades for that purpose. Finally, as in Belgium, it is felt that the subletting of rooms to boarders is a detriment to the best family life, so this is prohibited, the unmarried of both sexes being cared for in large hotels or "hostels" provided for the exclusive use of one sex or the other. The city's annual income from rents is about 1,809,270 florins or approximately $723,708.

Careful control is exercised over all housing built with Government or Muni-

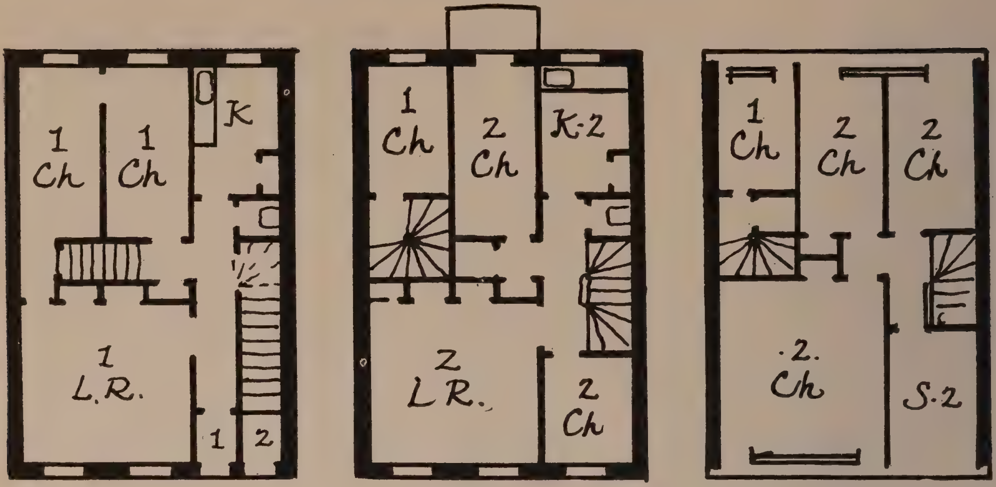


Fig. 50
DOUBLE DWELLING UNIT, AMSTERDAM, HOLLAND

cipal subsidy. Returns of rentals are made on regular forms weekly, and the societies are required to pay every month about 80% of their total income into the Municipal bank. Against this is charged ground rent, interest, loan redemption dues, house tax, water rates, etc., and interest is allowed on unused deposits. The proportion retained by the societies pays for upkeep, office expenses, repairs, etc. Insurance is carried by a blanket Municipal insurance fund.

Aside from the houses built or owned by the Municipality, twenty-three societies possessing 9,239 completed dwellings, and a large hostel, are controlled under a total of advances amounting to 61,204,000 florins, or $24,480,600. Revenue from these rents now totals 3,230,000 florins, or $1,292,000 per annum. In addition 1,328 buildings are now under construction. About one-quarter of the completed dwellings are self-supporting.

Advances made during the war toward middle class dwellings cover about 1,000 structures and a total of about 7,000,000 florins ($2,800,000) have been distributed on this class of buildings. In addition Government funds to an amount of about 5,784,000 florins ($2,313,600) have been provided toward making up excess war costs on this property. The societies are required to make the rents cover from 150% to 180% of the estimated 1914 costs, the Government paying 75% and the city of Amsterdam the remaining 25% of the difference. The Government has also advanced premiums to private builders, guaranteed by the City, to the amount of 8,729,000 florins ($3,491,600) on 1,570 dwellings. This is the record of a single city in Holland which had, in 1921, a population of 683,136!

Several types of apartment plans have been tried in Holland, most of them based on enlargements of the regular plan, particularly various methods of obtaining additional rooms on the upper floors to increase the capacity without enlarging the areas of the ground and first floor apartments. In one scheme there is an "inserted section" (Fig. 48) between two apartment units, the rooms of which are redistributed at will. A five dwelling type (Fig. 49) with two lower and three upper dwellings, is another method, while still another has two families with the lower apartment having one or two of the rooms on the upper floors added to it.

Certain general characteristics are to be observed in all these plans. First, the use of the living room to connect directly with the other rooms of the apartments, thus saving the area usually required for the hall or corridor, which in these plans is usually limited to a small entrance vestibule, and often not even that. Next it should be noted that while one room only is given for both living and dining purposes, yet the plans are often so disposed that it is possible to use one other room either as a living or sleeping room, according to the needs of the occupants.

Finally, it might be said that the omission of the customary American type of bathroom is not to be taken as meaning a lack of cleanliness on the part of the occupants. These groups all have public baths and other facilities, while the Continent has a custom of combining the lavatory with the bath or another plumbing fixture, so that we often fail to find it specifically indicated on the plan. Even in North America the mere inclusion of a bath room in the plan does not necessarily mean that it is used for its original purpose. The toilet itself does not receive any direct ventilation or light in outside locations, in the plans shown. This fact means merely that the building regulations in these countries are lacking in many of the expensive and often unnecessary requirements that are imposing excessive costs to similar building operations where we have attempted them.

These illustrations have been selected from the housing structures built by Municipalities and by some of the Societies, while Figs. 43 and 44 illustrate the Municipal use of the Garden City idea, on lines exactly parallel with those most advocated in England. While this group is a comparatively small one, its success has led to a far larger scheme, the Nieuwendam Garden Village of about 1,000 dwellings, all of which will provide space for a "douche" and will also include a few houses for aged people, providing one living room, a scullery, a bedroom and a small storage space. The Oostzaan Village has an average of 37 dwellings per hectare (about fifteen to an acre) of three bedrooms, living room and kitchen for the most part, and this suburb has recently been enlarged by three hundred dwellings, with more projected.

In The Hague are a number of groups of both private and public housing. At Duindorp are over 800 small houses wit sloping tile and flat roofs, for one and two families, rented at from $1.00 to $2.00 a week, with larger dwellings running to $3.00 a week. In the western part of the town are a number of buildings built by private individuals—aided by premiums from the state—with flats on the ground and two upper floors, with separate doorways from porches reached by stone stairways.

Another group built by the Municipality is available at Braamstraat at monthly rentals of from $14.50 to $18.00, or these same dwellings are for sale at $2,200. At Trekwegabout are 1,800 houses, built since 1916, with two-family houses on the smaller side streets and three families on the wider streets, living one over the other, at rentals of from $2.25 to $3.00 a week. The first of these houses cost about $1,000, those built about 1920 cost $2,650, and in 1924 the same type cost about $1,175.

In Norway the local authorities guarantee the loans made for dwellings of this class. A dividend of only 4% to 5% is allowed, while the state has a fund of 17,000,000 kronen available for housing needs. In 1913 this country had 243 societies owning 6,599 houses, and there are now many times that number.

Sweden has a fund of 48½ million kronen for housing purposes. It is given free of interest for the first year, and 4% is charged thereafter, with an increase of 6% in the seventh year, when a sinking fund starts for the repayment of the loan at the end of the maximum 34-year period. The national loan is not over 50% of the building cost, but the municipality sometimes lends an additional amount.

— The —
ENGLISH PARISH CHURCH AND ITS DETAILS

By

Robert M Blackall

Measured Drawings and Photographs by the Author

The Church at Hailes, Gloucestershire

Not far from Gloucester, in the heart of the Cotswold Hills, lies the little town of Hailes, the site of the large Cistercian Abbey.

The church dates from 1246, although the foundations were laid in 1135. History states that Ralph of Worcestershire acquired the de Laci property and built a church and small castle, of which nothing now remains except portions of the foundations. In the fourteenth century alterations were made. In 1225 Henry the Third gave the Manor to Richard, making him Earl of Cromwell. In 1242 Richard, driven by a gale to Sicily, vowed that an Abbey should be built at Hailes if he was saved, and in 1246 the Cistercian Abbey was founded. The building of this new Abbey caused more changes in the existing church which were finished by 1277. During Cromwell's time, in 1539, the Abbey was used as a quarry for nearby buildings, and the entire group, with the exception of the Parish Church, was demolished.

The present church is a typical Cotswold church, in that the Cotswold stone replaces the half-timber used in other parts of England. It makes a beautiful proportion of materials with stucco walls, the tower half timber and stucco, with jambs of the windows, the buttresses and coping of the Cotswold stone, and the roof the gray slate field stone.

The nave of the church is 30 feet long, 18 feet wide, and holds from 50 to 60 people. Like the church at Stratford-Under-Castle, it is vaulted, and has a plaster furred surface. It is typical of the small one-nave, one-apse church, and has a most pleasing combination of materials.

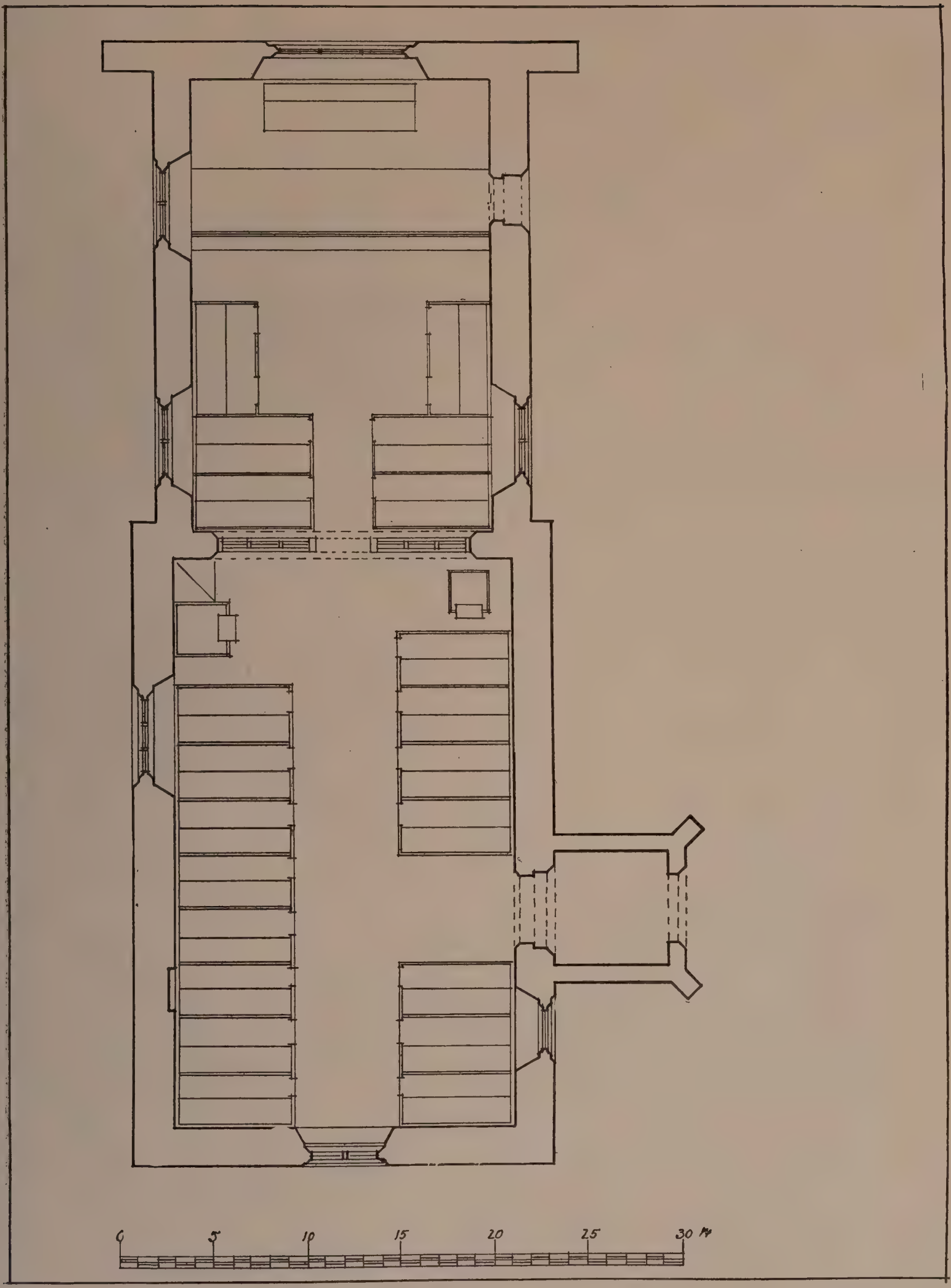
The Church at West Cranmore, Somersetshire

The church at West Cranmore in Somersetshire is a good example of the small one-nave, one-apse church which having become too small for the growing population, has an added aisle. It is clearly seen from the plan that the original church had but one aisle, and was built for a small congregation. The most natural addition has been an aisle, and later, when one aisle did not suffice, a second, as we shall see in some of the other churches.

The exterior of this church shows that it was undoubtedly remodeled when this aisle was added, but an examination of the interior of the nave shows it to be in general in its original condition. There are no pews in the church at present, chairs being used to seat the congregation. Field stone was used for the walls and tower, and simple wooden trusses and wooden ceiling for the interior.

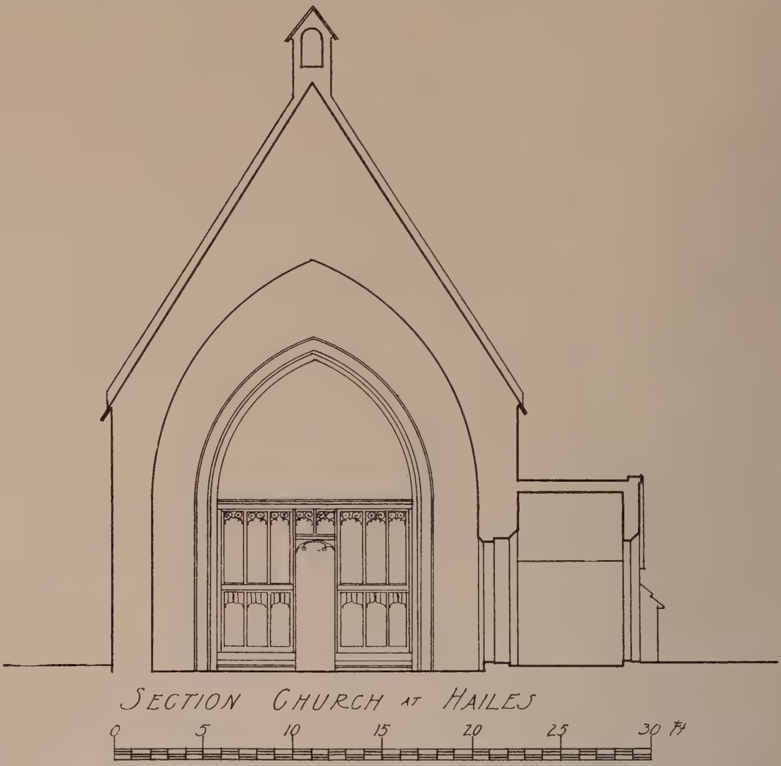
Church at Radley, in Berkshire

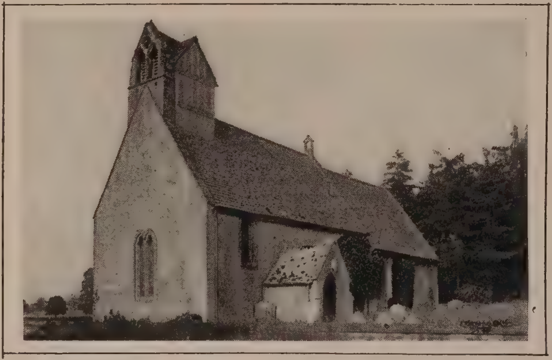
Like the church at West Cranmore, the one at Radley shows the first development of the English Parish Church, as the church with the single nave. The seating capacity becoming too small, an aisle was added to increase the number of pews. This church will seat approximately sixty people. The nave is 13½ feet wide and the aisle 7 feet. The wooden posts, separating the nave and the aisle, are interesting. They give the appearance of one large nave, as the roof slopes continuously from the center to the side of the aisle. To the right of the aisle a small chapel has been built, which at the present time contains the organ. This is a somewhat unusual arrangement.

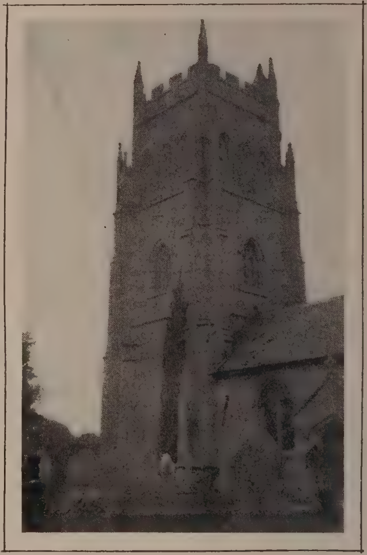


The Architectural Record *December,* 1924

Floor Plan
CHURCH AT HAILES, GLOUCESTERSHIRE
Measured and drawn by Robert M. Blackall



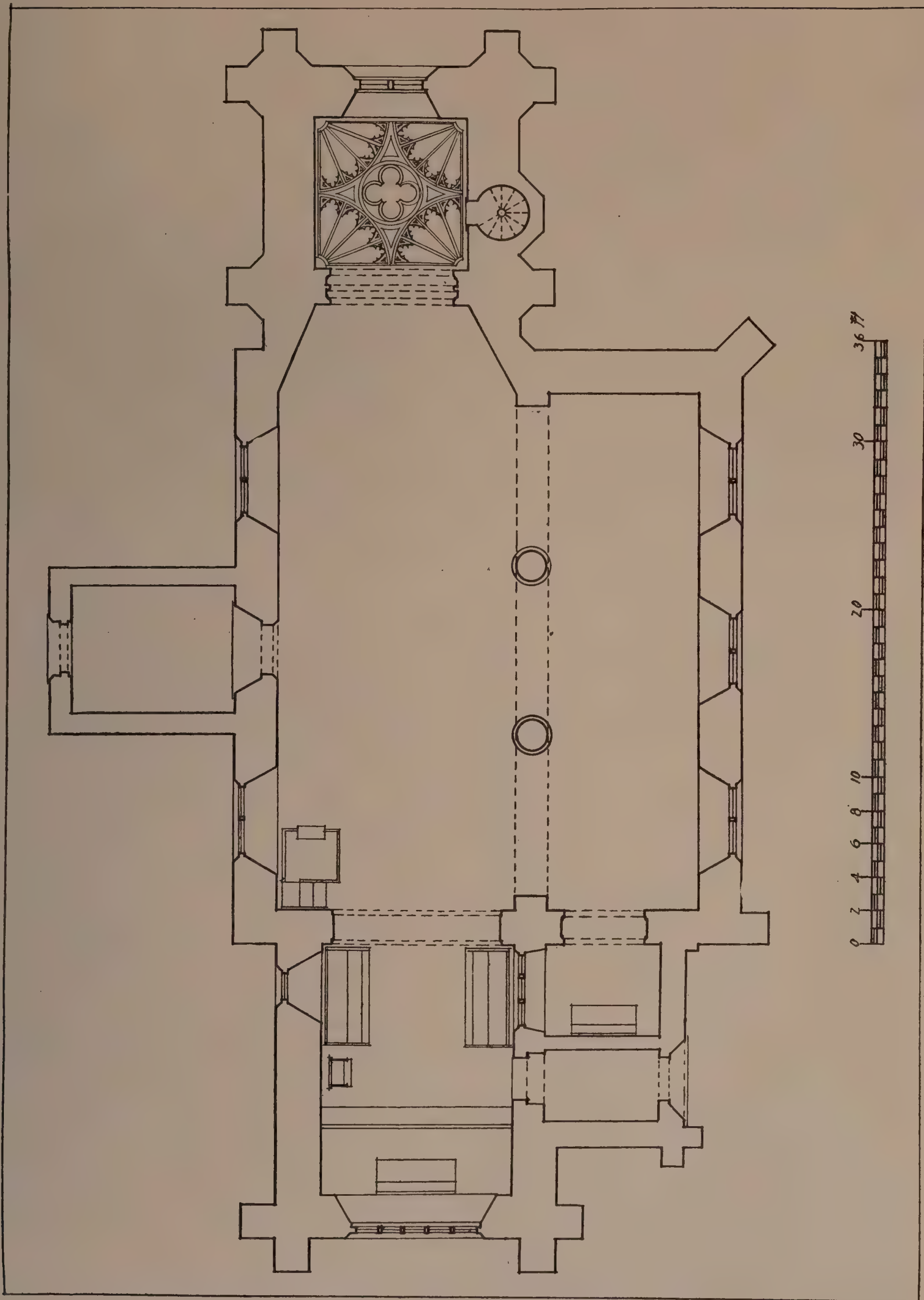




ABOVE CHURCH at HAILES

RIGHT CHURCH at WEST·CRANMORE

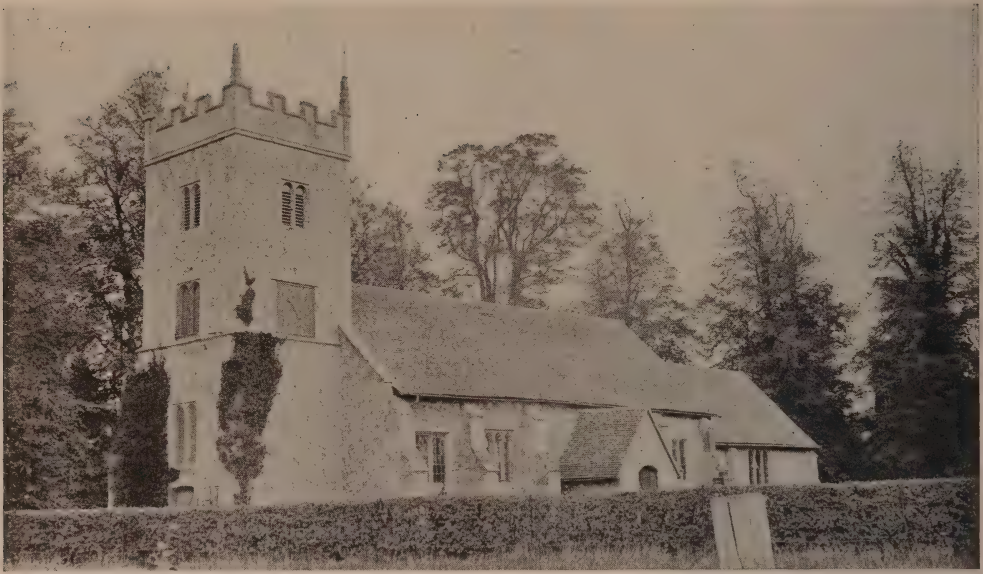
Sectional Drawing and Façades
CHURCHES AT HAILES, GLOUCESTERSHIRE AND WEST CRANMORE, SOMERSETSHIRE
Photographs and drawing by Robert M. Blackall



Floor Plan

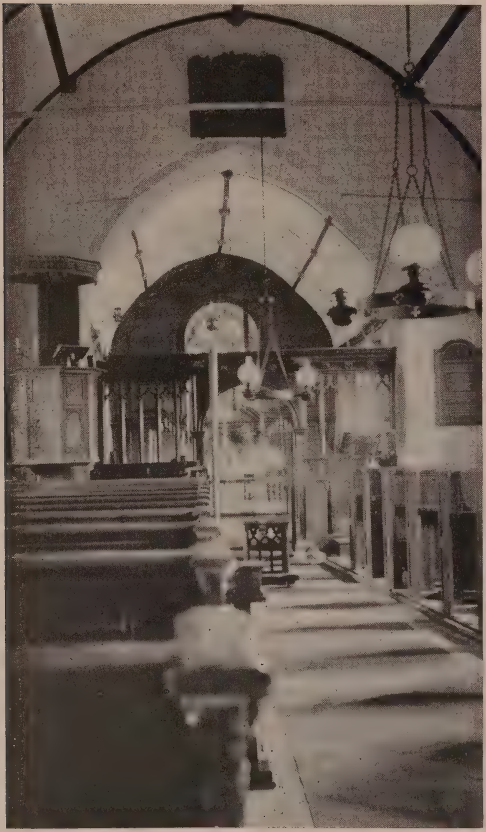
CHURCH AT WEST CRANMORE, SOMERSETSHIRE

Measured and drawn by Robert M. Blackall



Façade

Nave

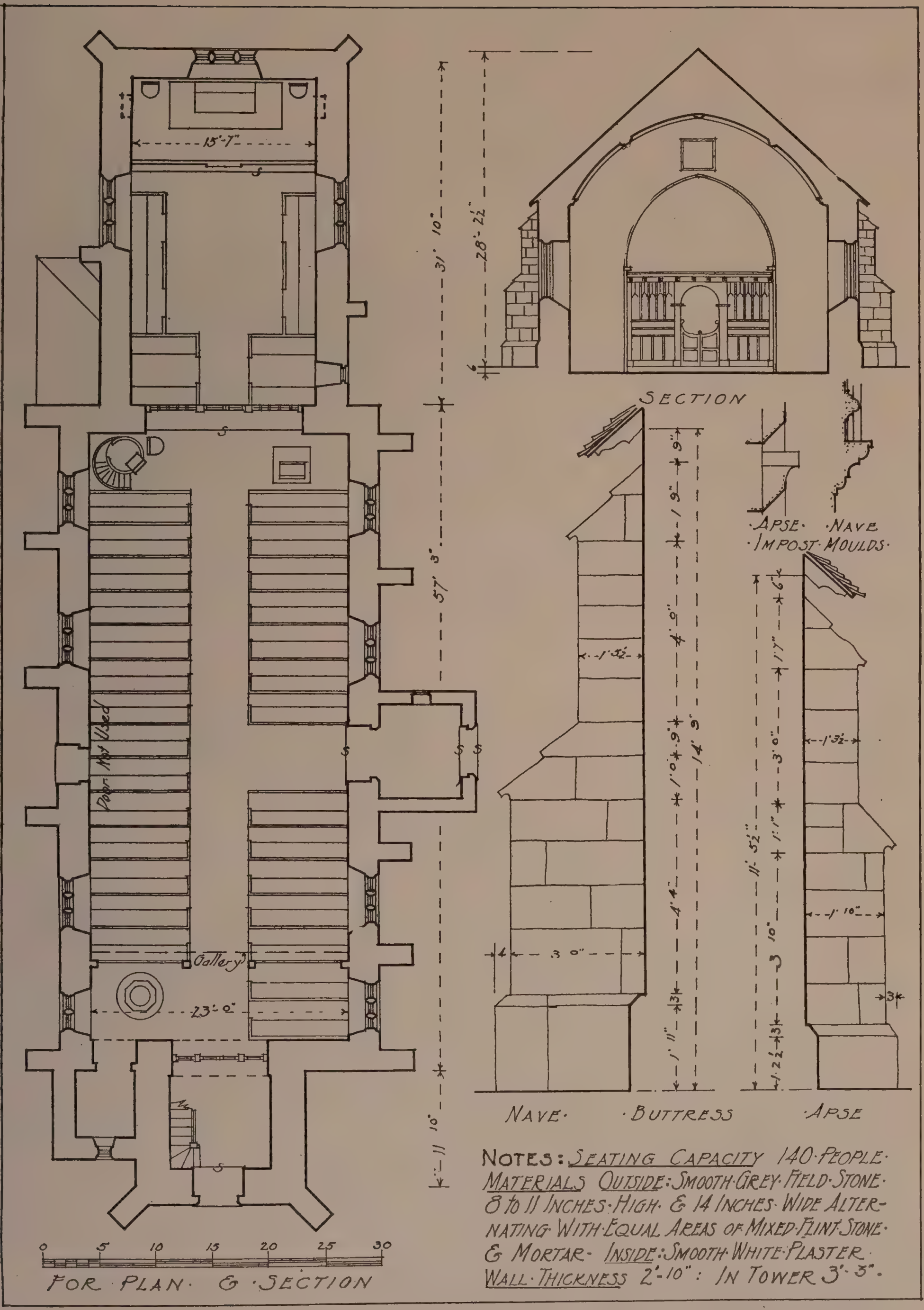


Church at Stratford-Under-Castle,

near Salisbury

The church of Stratford-Under-Castle, which lies about three miles outside of Salisbury, is dedicated to St. Laurence, and was consecrated in 1326 by Brother Robert Petyt, Bishop of Enaghdune (Ireland), by commission from Robert de Morival, Bishop of Salisbury. However, there is a diocesan record referring to a chapel probably on the same site, in 1226. The bowl of the font is Norman, and may very likely be a relic from this previous chapel.

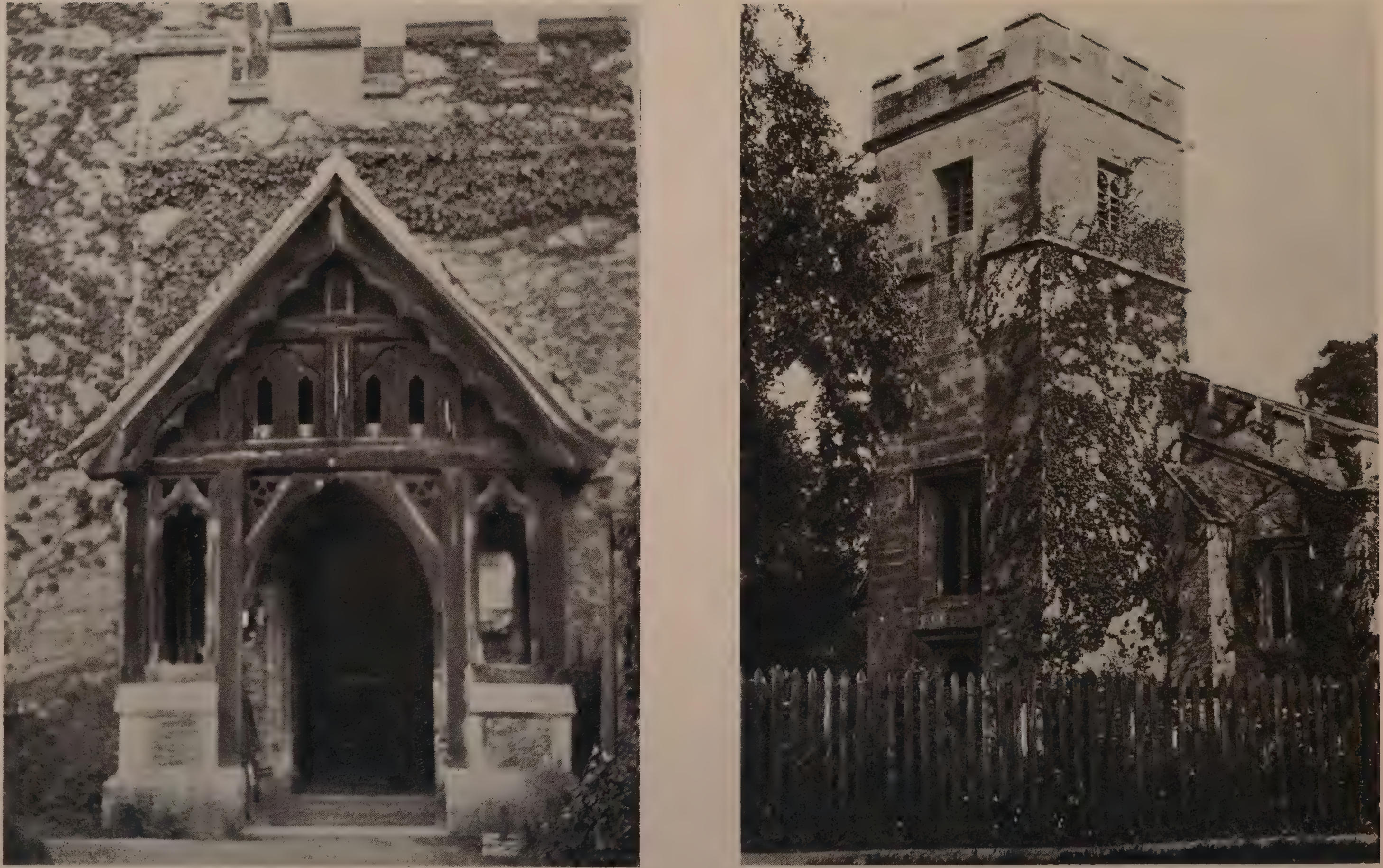
This church, like most of the English parish churches, contains work of many different periods. The original screen is fifteenth century. The church was reroofed in the sixteenth century; the oak pulpit is of Jacobean times. In the nave is an interesting series of gilded wood corbels of later date, which with oak panelling and the east wall of the chancel, are after Grinling Gibbons. The grandfather of William Pitt rebuilt the tower. There is a tablet in the chancel to the wife of Admiral Lord Nelson. The clock in the tower is eighteenth century, with two bells, one dated 1594 and the other 1767.



NOTES: SEATING CAPACITY 140·PEOPLE·
MATERIALS OUTSIDE: SMOOTH·GREY·FIELD·STONE· 8 to 11 INCHES·HIGH· & 14 INCHES·WIDE ALTERNATING·WITH·EQUAL AREAS OF MIXED·FLINT·STONE· & MORTAR· INSIDE: SMOOTH·WHITE·PLASTER·
WALL·THICKNESS 2'-10" : IN TOWER 3'-5".

CHURCH AT STRATFORD-UNDER-CASTLE, NEAR SALISBURY

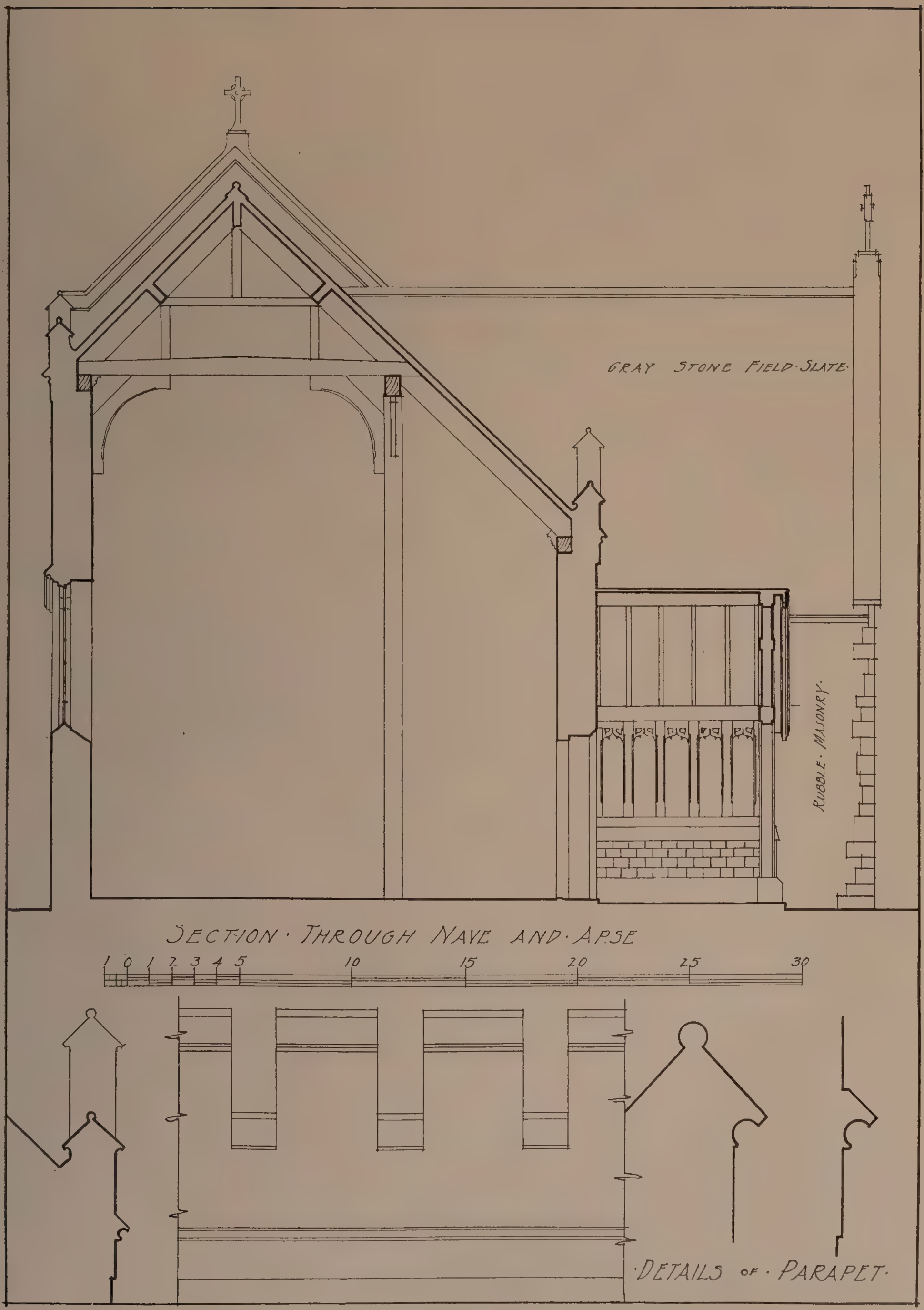
Measured and drawn by Robert M. Blackall



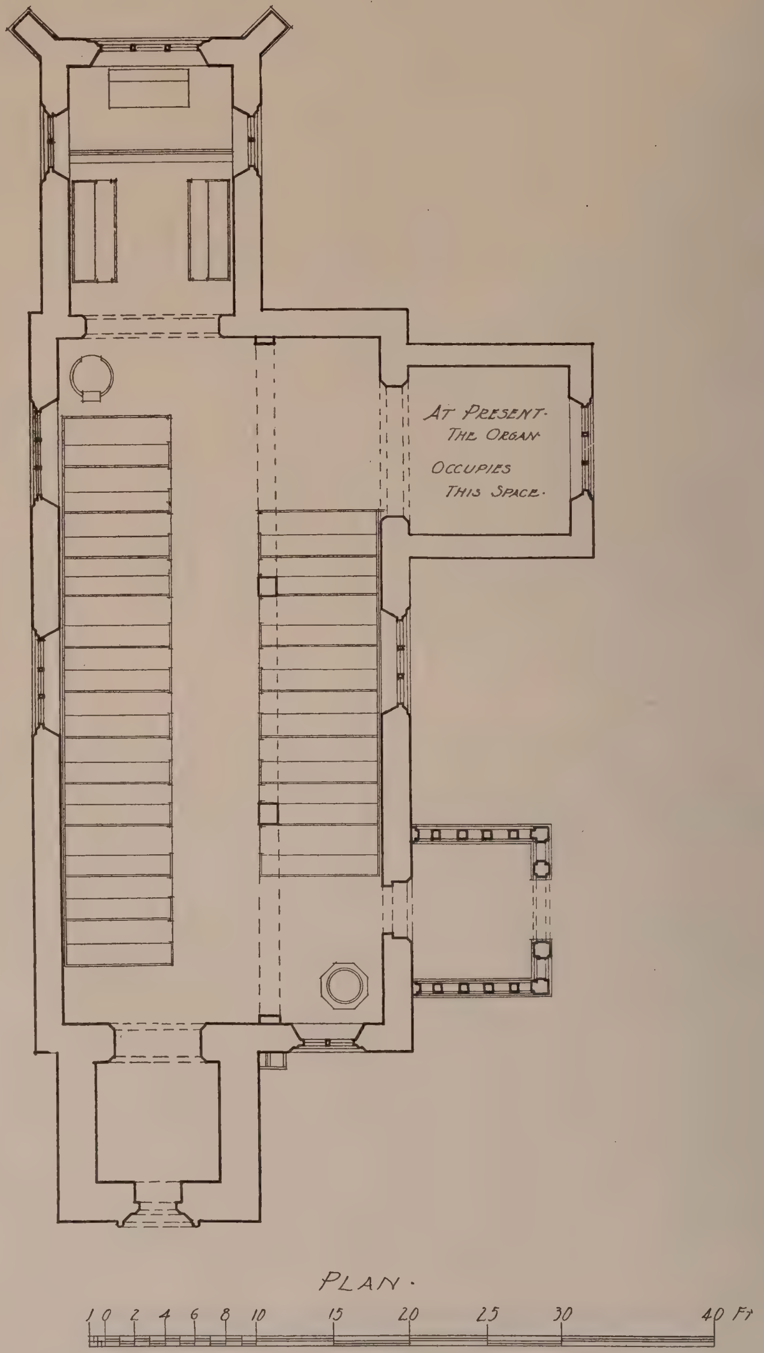
Porch

Tower

CHURCH AT RADLEY, BERKSHIRE, ENGLAND
Photographs by Robert M. Blackall



Sectional Drawing
CHURCH AT RADLEY, BERKSHIRE
Measured and drawn by Robert M. Blackall



Floor Plan

CHURCH AT RADLEY, BERKSHIRE

Measured and drawn by Robert M. Blackall

THE BUILDING PROSPECT FOR 1925

By THOMAS S. HOLDEN, Statistician
For F. W. Dodge Corporation

THERE WAS a secondary revival of building last winter that was not only great in magnitude but was practically without precedent. Ever since the slump of 1920 there has been organized effort to increase the volume of winter construction, and modify the seasonal irregularities of employment in the building industry. The minor depression of the summer of 1923 had represented a voluntary curtailment of building volume and was not caused by a slackening of the demand for buildings. In fact, the demand kept on growing stronger, while the volume of new work started was declining. An unusually mild winter, coupled with easy money conditions, provided the opportunity for a drastic reversal of precedent. Influenced by the desire to get projects under way before spring, an unusual volume of contracts was let. Aided by remarkably favorable weather, the actual work proceeded through the winter and spring at such a rapid rate that the enormous volume of construction was carried through without causing the serious strain on its facilities that the industry would most probably have felt had a like amount of work been attempted in any previous year.

This unprecedented winter revival had three results. In the first place, coming after the winter's 1924 estimate had been prepared ("The Building Prospect for 1924," as published in THE ARCHITECTURAL RECORD for December, 1923) it made revision of that estimate necessary shortly after its publication. That was the least important result, since any estimate, to be useful, must be continually revised in the light of new information. Second, and much more important, the winter revival enabled actual construction to catch up very nearly with the potential demand, for the first time since the war. Third, it probably established a precedent for winter building that alters permanently the normal distribution of building activity through the year.

The second result mentioned in the paragraph above is the one with the greatest bearing on the present building prospect. Chart No. 1 [page 577], gives deferred construction ratios covering the period from 1919 to date. These ratios are for the 36 eastern states covered by the F. W. Dodge Corporation, similar data on the remaining states not being available. Since these 36 states contain seven-eighths of the total population of the country, the figures are fairly representative of the whole. The deferred construction ratio for January 1, 1919, was the ratio of the total contemplated work in dollars reported during the preceding twelve months to the dollar total of contracts awarded in the same period; the ratio entered for each succeeding month being based on the corresponding record of the twelve months preceding the date of the entry. These deferred construction ratios may be considered as rough indicators of the potential demand. The chart shows how the demand ratio fell during 1919 when construction volume was rising, and rose in 1920 and 1921 while construction volume was on the wane. The big volume of construction during the late months of 1923 and in 1924 to date brought the ratio down to 1.50 on November 1, 1924, and 1.50 is about the normal ratio of work planned to work started in a year's time. There is less planned construction deferred in this country today than there has been at any previous time since the war. In the main, normal demand, caused by the normal growth of population, industry. and commerce, and by normal replacement requirements, will govern building markets from now on.

If the amount of planned work now in sight were the sole factor determining next year's construction volume, it would be reasonable to expect a decided drop from the high records of the past year. But there are other important circumstances to be considered.

In the first place, the status of potential demand is not the same for all classes

TABLE I.

COMPARISON OF PLANNED CONSTRUCTION AND CONTRACTS AWARDED

[The figures, in millions of dollars, are those recorded for the 36 Eastern States, which include approximately seven-eighths of the total construction volume of the country. They are totals for the twelve-month period ended October 31, 1924.]

Classification	Planned Construction	Contracts Awarded	Ratio
Commercial Buildings	782.9	574.8	1.34
Educational Buildings	431.6	376.0	1.15
Hospitals and Institutions	121.9	106.7	1.14
Industrial Buildings	569.8	357.6	1.59
Military, Naval and Public Buildings	60.0	37.8	1.59
Public Works and Utilities	1,269.2	707.6	1.79
Religious and Memorial Buildings	167.0	117.2	1.42
Residential Buildings	2,946.7	2,001.1	1.47
Social and Recreational Buildings	251.2	114.8	2.19
TOTAL	6,600.3	4,393.6	1.50

Territory	Planned	Awarded	Ratio
New England	439.0	350.5	1.25
New York State and northern New Jersey	1,699.6	1,355.2	1.25
Middle Atlantic States	803.1	463.0	1.73
Pittsburgh District	739.8	539.2	1.37
Central West	1,839.5	1,006.6	1.83
Northwest	131.2	94.7	1.39
Southeast	948.1	584.4	1.62

TABLE II.

ESTIMATED TOTAL CONSTRUCTION VOLUME IN CONTINENTAL U. S.

Year	Total Construction Estimate
1919	$3,600,000,000
1920	3,500,000,000
1921	3,100,000,000
1922	4,500,000,000
1923	4,600,000,000
1924	5,000,000,000
*1925	4,500,000,000

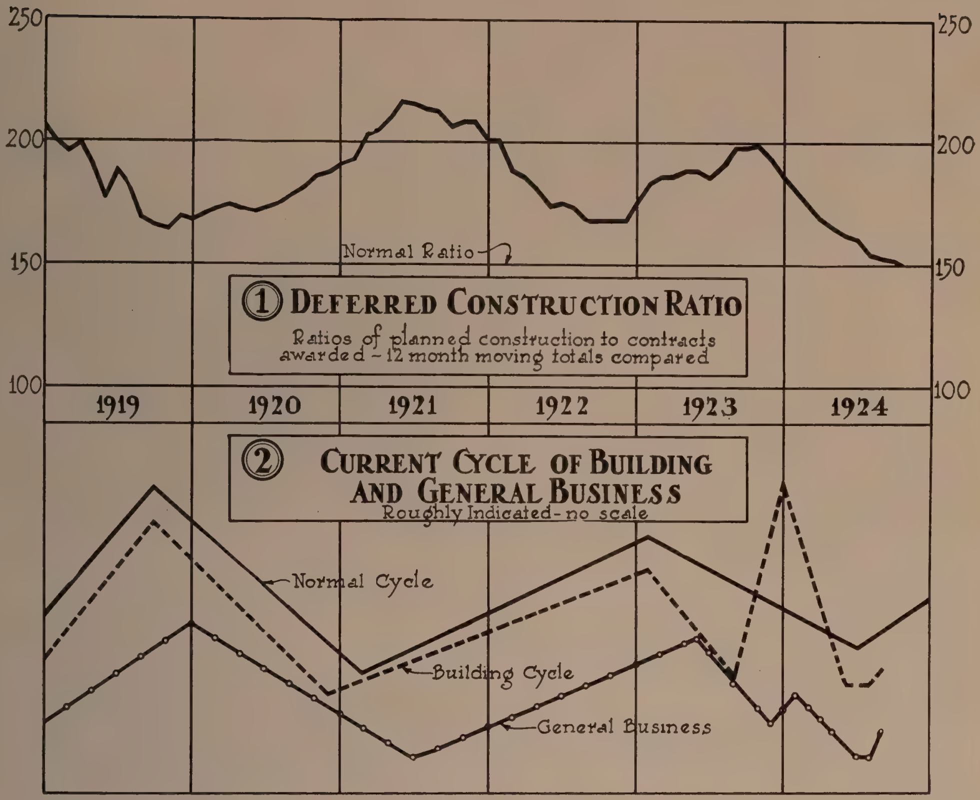
TABLE III.

ANALYSIS OF TOTAL CONSTRUCTION VOLUME

(Figures in Millions of Dollars)

	Average 1919-1924	Year 1924	*Year 1925	Percentage by Architects
Commercial Buildings	586	655	585	80
Educational Buildings	322	430	315	95
Hospitals and Institutions	91	120	90	88
Industrial Buildings	464	405	495	49
Military, Naval and Public Buildings	44	45	45	85
Public Works and Utilities	730	805	900	7
Religious and Memorial Buildings	89	135	135	93
Residential Buildings	1,593	2,275	1,800	64
Social and Recreational Buildings	131	130	135	91
TOTALS	4,050	5,000	4,500	61

*For basis of 1925 estimates see text. All estimates and analyses based on statistical records compiled by F. W. DODGE CORPORATION.



of construction, or for all sections of the country. For this reason, a table is appended to this article (Table I) showing the deferred construction ratios by classes of construction and by territories. A ratio considerably under 1.50 indicates that potential demand has been largely met; a ratio over 1.50 indicates a large demand yet to be filled. Those districts showing the highest ratios are the ones in which recent construction activities have been relatively the largest. Unfortunately, there are no similar records for the twelve western states which are not covered by the reports of the Dodge organization. Apparently the big boom in the Pacific Coast states has subsided somewhat, but activity continues at a good rate. A good rate also continues in the Rocky Mountain states and Texas, such indications as are available pointing to a continued demand for new construction.

Another consideration of great importance is the present phase of the business cycle, shown roughly in Chart No. 2. The so-called normal cycle shows the tendency of general business and of building operations to move in waves which, over a long period of time, average forty months in duration. General business ran about true to form through the depression of 1920 and 1921, with an extended up swing through 1922, culminating in a peak early in 1923. There was a secondary wave in the early part of 1924. At present all the indications are for an upward movement in general business, of some considerable extent, perhaps a steady upward movement throughout 1925. The secondary revival in building reached a higher peak in 1924 than the regular cyclical peak of 1923. Had building activity followed its more or less customary course, without the unprecedented wave of winter building last year, the time would now be about ripe

(*Text continued on page* 584)

NOTES AND COMMENTS

JOSEPH HOWLAND HUNT

The sudden, untimely death of Joseph Howland Hunt threw a heavy mantle of depression over his countless friends. It was as if, without the usual warning, there had suddenly been an eclipse of the sun. Amazing! Great, virile, handsome, sunny spirited Joe Hunt—gone! For above all Joe was sunny. He radiated joy. His greeting raised your hopes, his presence was a stimulant and his farewell left you sorry at parting, yet optimistic. But now he has gone —for good.

As an architect, he never set the world afire. He was neither a McKim nor a Bacon. Perhaps at the very threshold of his career he was conscious of crossing into the permanent shadow of his father's greatness. But his works were substantial and in good taste. He was a man of broad training and experience, and an able executive.

I like to dwell on his magnetic personality. For who shall say that to the man who designs a great public monument and lives a skunk's life—a tablet shall be raised, but none for him who left his greatness in the heart and memory of all who clasped his hand?

I remember him so well, when we were at the Ecole, twenty-five years ago. He was probably the handsomest thing in the male line that Paris had seen since her noblity were thrown out of office. He wore black velvets, not, however, the usual peg-top, baggy, corduroy trousers—but knickers. He had a pair of legs that brought out all the latent beauty in the surrounding landscape. And Joe apparently believed in art for art's sake. Those legs were magnificent. And he wore a broadish white collar, with a flowing Windsor tie, sometimes black, sometimes a Dempsey vermilion. And always the soft, dark gray fedora, perched at a rakish angle! He looked a young god —and he was. A leader, a magnet, good natured, kind and thoughtful. Joe Hunt, if you get what I mean, was a great help. He was a great help in his home, in his office, in his club. Wherever he betook himself, his lovable personality added just so much to the pleasure of the occasion. It strikes me that no man could wish for a nobler epitaph: He was a great help.

Oswald C. Hering

Joseph Howland Hunt was born in New York March 6, 1870. He was a son of Richard Morris and Catharine Clinton (Howland) Hunt. He prepared for college at St. Mark's School, Southboro, Mass., attended Harvard University, 1888-1892, and studied architecture at Columbia School of Architecture, and, from September 1894, to 1900, at the Ecole des Beaux Arts in Paris.

While abroad, he traveled through France and Spain. Returning to America in October, 1900, he was taken into partnership by his brother, Richard H. Hunt, (who had been associated with their father during the last eight years of their father's life), and continued the practice of his profession under the name of Richard Howland Hunt from 1895 until January, 1901, when the firm of Hunt & Hunt was formed.

Among the works of Hunt & Hunt in which the late Joseph Howland Hunt was specially interested were many residences, notably in Greenwich, Conn., and numerous alterations. Probably his most well known works were the Fisk Building, at Broadway and 57th Street, New York, and the plant of the Tata Iron & Steel Co. at Jamshedpur, India.

WHEN THE ARCHITECT KNEW HIS CRAFT

The September 20 number of the Journal of the Royal Institute of British Architects contains an interesting and lucid "Note on Architectural Training in the Past, with Special Reference to England," by Paul Waterhouse, M.A., P. P. R. I. B.A., etc.

The "Note" is in three parts: "The Ways of the Ancients," "The Days of the Giants," and "The Praise of Our Fathers." These are alluring headings. Careful thought and attention now is given to titles, whereas formerly we used to go directly to the counter in the rear of our favorite bookstore to look over the latest number of English "Country Life" and the "Architectural Review," with only a superior look towards the fiction table; now the titles pull us up with a jerk, and we just *have* to stop and read a few sentences from "Peter Whiffle," or "Chrome Yellow." Life, alas, is full of such distractions: but we digress.

In the golden age of Greece and Rome, when Ictinus plotted the Parthenon by means of logarithms (it was the functions of numbers and not the stupid modern juxtaposition of digits that interested the Greeks) and Callimachus modelled the Corinthian Capital from a basket accidentally placed over the root of an acanthus by Thisbe, that famed beauty of Babylon—in those days the architect had to know his craft.

The list of subjects given by Vitruvius contains the sum of human knowledge with nothing missing except ferro-concrete. The ten books of the great master cover the field from the building of cities, with direction for the installation of a water supply, to the principles of gnomonics and the rules for dialing. To each book there is a preface which is perhaps the most valuable portion of the work to us, for in these prefatory remarks we discover somewhat of the personality of Vitruvius, his mode of living, his professional practice and prejudices. Octavia, lovely sister of Augustus, was greatly impressed by Vitruvius' military skill in the African War (46 B. C.) and his subsequent modest bearing and noble countenance, and induced the Emperor to extend to him his constant patronage. While Vitruvius' practice was not extensive, the only public work attributed directly to him being the basilica at Fanum, the whole spirit of the architecture of the first century B.C. et. seq. is epitomized in the "De Architectura."

Although Pliny does not mention it specifically, there can be but little doubt that Vitruvius, possessed of a modest affluence and the leisure allowed by a kindly patron, founded a School of Architecture in the Imperial City. Mr. Waterhouse is convinced, and most of us will agree with him, that "the one abiding principle in the training of the architect, whether in a guild of masons or in a monastery, whether in mediaeval times or in the days of Post Reformation practice, was contact in a subordinate capacity with some men whose independent status as a designer was already won." Personal contact with the magister and the practice of the principles he expounded resulted in the founding of a school or society known as "De Bellis Artibus Architectorum Societas," or as one might call it, the Society of Beaux Arts Architects. This society was composed of architects who, having studied and absorbed the teachings of Vitruvius, went to Athens to perfect themselves in their art. After the required time had been passed in Greece and Lydia, with possibly an apprenticeship in the archaeological expeditions at Cnossos, Persepolis and Memphis, the young architect on his return to Rome was eligible for either a civil or military position, depending on whether he had chosen Option I or Option II.

Unfortunately all but the most fragmentary records of the Society have long ago perished. Frontinus has a reference that might be an allusion, and the Fullerton Collection has a parchment scroll on which can be traced the letters B.A.A.S., with the date (Ides of March A.U.C. DCCCLII), which seems to be an account of the LVIIIth annual convention of the Society.

While Vitruvius speaks with authority on the Laws of Symmetry and Analogy, and attempts to establish the relation between the proportions of the human frame and the lines of the classic temple, declaring that "proportion is the commensuration of the various constituent parts with the whole, in the existence of which symmetry is found to exist," modern research has entirely discredited his conclusion; "not a single Greek example has been found which bears out the Roman writer's theory."* It is supposed that either the Romans were intentionally misled by the Greek artists and craftsmen whom they employed or that, blinded by arrogance and conceit, they jumped at conclusions and misinterpreted the laws of dynamic symmetry that had been firmly established in Egypt since the first Dynasty. The Greek tradition that Vitruvius thought he was codifying was based on his interpretation of the word "commensurate." The statement that "members of the human body were commensurate with the whole" and that this law, transferred to works of art, showed that they derive their principles from nature (every part being so proportioned to the whole as to bear its just relationship) is now held to mean "commensurate in area, not in line."

On the practical side of architectural training, Mr. Waterhouse draws some very rational conclusions. He says, "Experience (which is success through failure) and head-knowledge (which is a slow process of advance from ignorance) are the necessary elements of architectural equipment; it is obvious that the failures and the ignorance must not be entirely practiced at the expense of those who pay for our designs." Many architects have built a fine reputation through a strict adherence to this principle.

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*Hambidge—"Dynamic Symmetry."

"Ignorance can be overcome by book learning and other teaching (pre-supposing of course that the books and other teaching are based on true fundamentals), so that as far as that side of an architect's panoply is concerned he might in certain favorable circumstances be made the perfect designer before he was exposed to the risks of practice."

Even the perfect designer is lost and confused without the benefit of experience, when confronted with the actual construction of his first job. He may, it is true, rely on an able engineer or superintendent to see that the work is properly executed but "happy and few are the beginners who can shoulder responsibility alone, without first practicing on a responsibility shared." The joyous thing about architectural practice is that each new job presents many problems that have not been previously met by even the most experienced architect. If a purling spring is discovered in the foundation or quicksands encountered, the spring does not purl like other springs, and everyone knows that quicksand is never twice the same. As for the perfect specification, it is an *ignis fatuus,* commonly called "Will with a whisp."* If a perfect specification cannot be written, something must be the matter with Option II.

Might it not be well, as long as we are dealing with architectural education, to devote some serious constructive thought to the engineering side of the subject. It is generally assumed that here is an exact science, the details of which may be learned in a curriculum, and that only moderate experience in the "field" is essential. Among the Egyptians and the Greeks, there was no separation of the functions of the craft, and the "cording of the temple" was recognized as a prime requisite of the architect. The profession of rope stretching was a noble one and attended with great ceremony. In Egypt, the Pharaoh himself was the chief actor, assisted by the goddess Sesheta "the mistress of the laying of the foundation Stone."† Splendid processions, solemn pomp, and glad feastings attended these ceremonies. There are many inscriptions portraying such scenes and their significance is tremendous. It was to preserve this tradition so that future generations might follow and perhaps surpass them that these masters caused them to be inscribed. Our system of architectural education fails, and the same might be said of other branches of learning, in the tendency to over-specialize, in the acceptation as fact of principles based on a faulty understanding of the law of symmetry, and in a too materialistic, so called scientific viewpoint. The hackneyed phrase "back to nature" is the underlying principle of art; the difficulty being in getting back to nature and recognizing it when it is shown us.

Socrates was a stone-cutter before he was a philosopher; he understood perfectly the laws of proportion. The Greeks disdained arithmetic, but had a great understanding in geometry. Thales, Proclus, Eudemus, Theodorus, Hipparchus, Euclid, and the Pythagoreans used to have delightful discussions, over an amphora of Chian wine, on the properties of rectangles, cubes, and the geometry of art, which knowledge is all but lost to us. Says Mr. Hambidge, "The idea of commensurability or measurability in square is geometrically explained in the tenth book of Euclid's 'Elements.' The artistic use of this fact became lost. This loss was a calamity. We must either blame the Romans for this catastrophe or ascribe it to a general deterioration of intelligence. If this knowledge had not been lost, artists today would undoubtedly have been creating masterpieces of statuary, painting, and architecture equalling or surpassing the masterpieces of the Greek Classic Age."

H. G. R.

THE RENDERER'S JOB AND ITS IMPORT

Individuality in rendering is growing. Not long ago the renderer's art in this country was characterized by a clean-cut manner that might easily turn into a mechanical convention. Prominent was the work of Hughson Hawley. For the rest of it, there was pen drawing here as in England, as can be observed in the architectural periodicals of the time. It was often quite uninspired, tasting strongly of the draughtsman's table, and not always without an amateurish touch.

It is not exactly to the methods of the draughting room that a renderer should limit himself. If his business is to make a plan and design understandable and palatable to the client, he should use the methods any artist would employ to bring his viewpoint, his mood, the results of his observation, before the public.

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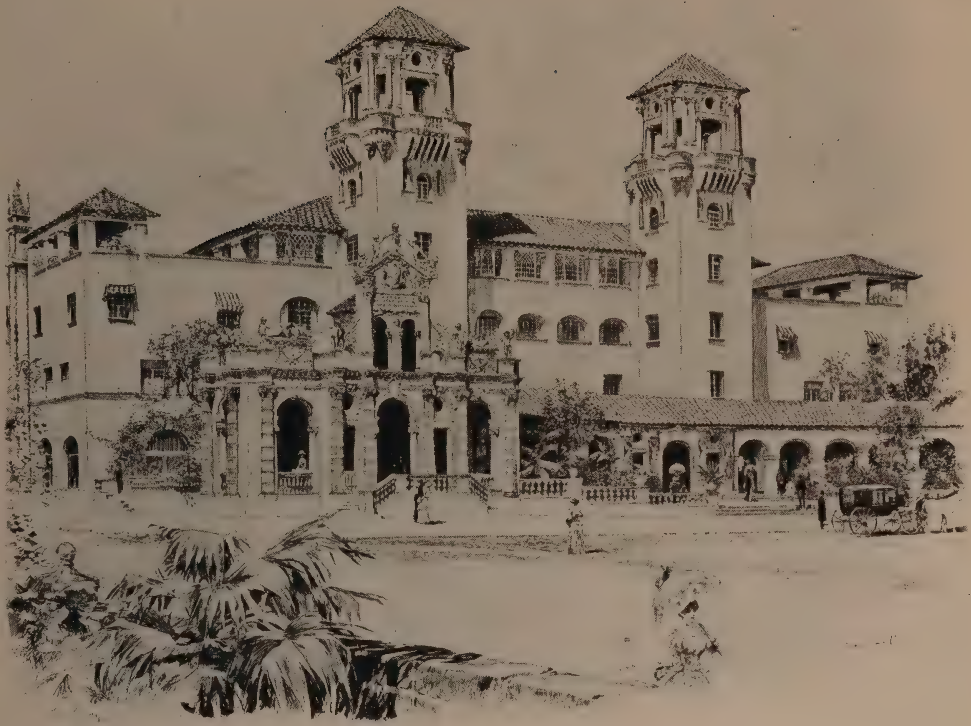
*Bailey.

†"Dynamic Symmetry"—Appendix Note II.



THE ALCAZAR, ST. AUGUSTINE, FLORIDA
Rendering by Robert Blum

From artists who have depicted subjects within his field, or even those skirting that field, the renderer therefore can profit. To him the projected structure, its present and prospective surroundings offer problems in composition and treatment worthy of his best powers. The whole field of graphic art, but especially drawing and the reproductive arts (etching, engraving, lithography), becomes a rich storehouse of suggestions for the renderer. An indication of this is offered in the study of David Roberts, by Leon V. Solon, in THE ARCHITECTURAL RECORD for September, 1919. In that article, by the way, we find the pat statement that "pictorial quality is the most natural and direct agent for the transmission of an architectural conception to the lay mind." In the same magazine for May, 1923, was considered "The Architect and the Graphic Arts" and the diversified suggestions that the etcher and lithographer have to offer the renderer. One has but to think of the etchings of Bone and Cameron to see that.

Much of the product of these reproductive graphic arts is in line, and it is worth noting that the present-day return to the line in illustrating and in advertising art is echoed also in architectural rendering. Many of the examples of architectural sketching, such as those by Samuel Chamberlain and others, published in recent years, are in line. It is significant, too, that in articles such as the series by Jasper Salwey in the London ARCHITECT in 1924 ("Sketching in Leadpencil for Architects and Others"), and in the increasing number of books on architectural drawing, the line holds a prominent place. Take that interesting "Book of Architectural and Decorative Drawings by Bertram G. Goodhue" (New York, 1914); or "Pen Drawing" by Charles D. Maginnis, himself a renderer of note; or the volume on "Architectural Rendering in Pen-and-Ink" (New York, 1915) by Frank Allison Hays. These show examples of the work of Pennell, Herbert Railton, Goodhue, D. A. Gregg, Maginnis, C. F. Bragdon, Harry Fenn, Whistler, Harvey Ellis, Wilson Eyre, an artist of "careless force." How suggestive is even that short list of names! Add to them those mentioned by Pennell and still later ones listed by Frank Chouteau Brown. The rich material that antedates them is briefly reviewed in Reginald Blomfield's "Architectural Drawing and Draughtsmen" (London, 1912). Blomfield takes us through the Middle Ages, the Renaissance, 17th century France, the 17th and 18th centuries in Italy, and England, and gives much space to Piranesi.

One of the most recent books is Arthur L. Guptill's "Sketching and Rendering in Pencil" (New York, 1922). Building up from the elementary facts regarding the use of the medium, it develops, in text and illustration, into a song in praise of the pencil. The illustrations begin with sketches of human figures, animals and landscapes, all of which may well help broaden the knowledge and style of the student, and then offer examples of the work of recent architectural draughtsmen such as Otto R. Eggers. His drawing, as one writer has said (BRICKBUILDER), "presents so beautiful a blend of pictorial and architectural effects," and his "freedom and ease of delineation" was referred to in THE ARCHITECTURAL RECORD of 1918. The usefulness of books that have to do, directly or indirectly, with rendering will be increased immeasurably if they lead the reader to the original documents, the mass of material to which they point.

Pencil and crayon are coming into vogue today. In the eighties and nineties of the past century it was pen-and-ink, a medium in which a number of our artists achieved more than ordinary distinction. Robert Blum, Pennell, Otto H. Bacher, Kenyon Cox, W. H. Drake, C. S. Reinhart, E. A. Abbey and H. F. Farny were among those whose drawings appeared in Harper's and the Century of that day. Figure drawings mostly, but none the less worth the draughtsman's attention. Usually original designs, but sometimes done from photographs. What can be done in the latter was emphasized by Pennell in his comment on an architectural interior by the whimsical Alfred Brennan: "There is nothing stupid and nothing photographic, and yet it was made from a photograph."

Others beside Brennan did architectural subjects. C. A. Vanderhoof drew delightful pictures of buildings, such as the one of the old Y. M. C. A. on Fourth Avenue and 23d Street, New York City, in pencil, if my memory is not at fault. E. C. Peixotto carries on the traditions of pen-and-ink today. Pennell mentions also Blum's excellent drawings for Carrère & Hastings's pamphlet on the Ponce de Leon and Alcazar Hotels. And there were men in England such as Alfred Parsons and Herbert Railton; the latter's work includes illustrations for W. Outram Tristram's "Coaching Days and Coaching Ways."

Those were the days when Hughson Hawley reigned supreme as a renderer in water colors, in which medium Charles Graham worked with ease and taste. Their drawings, definite in statement, may again be contrasted with the color-work of present-day Jules Guerin ("an impressionist among renderers," with whom structures recede into the enveloping haze of a personal viewpoint and style), and with the water-color rendering of Birch Burdette Long. Long, author of the "wonderful drawing of the Hudson-Fulton competition" whose "transparent delicacy" has been pointed out, once wrote an interesting article on "Individual Style in Rendering."

There are also the wash drawings of Arthur Byne, whose work called forth the reflection that "color is no longer a mere matter of staining the paper pleasantly, but of building up impressive masses." Mr. Long in 1905 expressed the opinion that the half-tone had "ended the chief usefulness of the pen-and-ink drawing," but he is today utilizing the line of lithography, and line drawing is growing increasingly in favor generally. On the other hand, another statement of his holds good: the work of the present-day draughtsman is a nearer approach to the work of the illustrator than ever before. Most of the artists mentioned in the preceding paragraphs were illustrators and not renderers at all, but they worked in a spirit and with a technique that might conceivably be quite that of the renderer, and that is increasingly coming to be so.

To return to the pencil and crayon, with their staccato softness. Among those engaged in the architectural field, or whose drawing, apart from subject, is suggestive, are: Earl Horter, precise yet free, as in his sketch of the Harkness Memorial Tower at Yale, of a sunny lightness, one of his advertising pictures (January, 1924); Franklin Booth; Hugh Ferriss, who sees, and dreams, in masses rather than detail; Samuel V. Chamberlain; Vernon Howe Bailey, master of sure and subtle draughsmanship; Louis Ruyl, maker of snapshots in crayon; Chester B. Price, who exemplifies the adaptation of method and mood to the subject, giving the spirit of an office building or a country home, respectively. There's Kenneth Conant, too, of the Architectural School at Harvard, whose drawings in pencil and pen at the Cleveland Museum show delicate shadows and fine aerial perspective.

These, and others, illustrate the increasing use of the line, particularly the broken, quivering line of pencil or crayon.

Similar examples are to be found abroad: F. L. Griggs, whose art Frank Chouteau Brown analyzed in the ARCHITECTURAL REVIEW of August, 1913, and October, 1915; Riffles Davison; Carlton Moorepark, in England. And in New South Wales, W. Hardy Wilson, whose characteristics are simplicity and delicacy. Not so long ago we had Harvey Ellis, whose media were water-color, charcoal and pen, of whom H. M. G. Garden said: "His sense of line has rarely been excelled. . . . In these days of . . . certain rules for the making of certain kinds of architectural drawings, it is pleasant to turn for a moment to . . . a man whose only rule was his fine sense of the meanings and relations of everything within his field of knowledge."

A walk through the Architectural League exhibition in 1924 in New York City brought richly interesting proof of the new spirit in rendering. There were drawings by Chester B. Price, such as the one of the School for Boys near Rochelle, in which trees in broad strokes and dark shadows contrasted with the more delicate treatment of the building: the delicate sketch of the estate of Charles B. Rogers (Prentice Sanger, landscape architect and architect): lithographic drawings of B. B. Long and John Richard Rowe, the latter a wee bit Prout-like: the Shelton Hotel, Arthur Loomis Harmon, architect, treated as a big crayonned mass without detail: the "Study of the Zoning Law: sketches of the masses of various buildings designed in conformity to the law": and the proposed convocation buildings by the late Bertram B. Goodhue: in color, the tinted drawings by Benno Janssen and E. P. Mellon, quiet in tone, a bit like the early nineteenth century British aquatints after Pugin and others. Cheerful promise in all of this and stimulus for yet more renderers to lay aside, sometimes, draughting tools and eye-shade, and get out of the office and see things.

Leon V. Solon once wrote that "professional interest in 'rendering' proceeds from a commercial motive," and assured the reader that art is not degraded by the association. If anything is commercialized it is not art but a poor surrogate. Whatever our job, it is dignified and ennobled by the point of view which we bring to it and the way in which we carry it out.

The new spirit in rendering, or renewed spirit, if you believe with Ben Akiba that there is nothing new under the sun, brings a fine flavor of artistic dignity to the task of enlightening and pleasing the customer.

FRANK WEITENKAMPF

THE INCREASING IMPORTANCE OF ORNAMENTAL DESIGN IN ARCHITECTURAL PRACTICE

The scope for architectural activity is constantly enlarging in the direction of the applied arts; we see the time near at hand when a general education in ornamental design will be regarded as an essential adjunct to professional information. The younger men, in whose hands the future of American architecture is so securely held, are leaving the petty larceny of the orders to the survivors of the old *régime;* their sound judgment in the determination of aesthetic ideals, and impartial appraisal of the value of precedent in self-expression, give an added importance to the purely ornamental side of architecture. Precedent and archaeology are no longer the yardsticks of performance, having been retired with honor to the cultural class. With a sense of relief we feel that the future is not overcast with the threat of continuance in the bastard line of St. Peter State-Houses; the old stock-in-trade of dome, colonnade and peristyle, is being relegated to the discard, with that polite toleration that is accorded the survivor of a generation who has outlived serviceableness. Declarations of architectural independence abound, some to delight, others to impart an optical jolt. We share the astonishment of the man-in-the-street at the *tête-de-nègre* tower overlooking Bryant Park, and gaze with wonderment at the brave glitter of this colossal demonstration of architectural dentistry, with its profusion of gold-crowning, bridging and filling.

Scenic effect becomes an increasingly valuable architectural asset, due obviously to its advertising value. As architectural interest is no longer restricted to the exterior of the structure, and interior effect must now be created in a great number of cases, the designer finds himself wrestling with problems which until recently were the sole concern of the craftsman. However extensive this new field of effort may become, there is little probability that the architect of the future will be called upon to control the detail of the associated crafts; but at the present time there is an urgent necessity for cultivating the capacity to express the architect's requirements graphically, in such fashion that the executant will comprehend the quality and value of that effect which is required of him. This calls for a certain degree of accomplishment in the forms of ornamental design. Unfortunately there is considerable difficulty encountered when practical instruction is sought, owing to the scarcity of capable instructors and to the extremely theoretical character of the text-books. Those works on design which are most extensively used, treat the subject from what is assumed to be an analytical standpoint; but they treat only of the geometrical plan upon which ornamentation aligns itself in composition, completely ignoring mass as the main element of effect. The fact must be recognized that *effect* is a result of the artistic control of optical phenomena, and until those phenomena are identified and their operation comprehended, education in this art must necessarily leave essentials to the mercy of hazard. We feel sure that the most productive art education of the future will be founded upon the *science* of effect, and that intuition will no longer be the main motive power. In the architectural schools a neglect of the art of ornamental design will prove the most serious obstacle to the maturing of those new phases of architectural expression which bear the promise of a national school. We hold no brief for the ornamental extravaganza—on the contrary, if the basis of instruction is sound its greatest utility will be found in those delicate adjustments in proportional scale which have become a characteristic of the modern American stylistic essay. In ornamental design, effect quantities are stated with the greatest simplicity, and variations caused through schematic adjustment are appreciable with the minimum effort. Any form of education which develops our sensibility to the appreciation of varying quantities in effect-values is vastly important, and for this reason the study of ornamental design has a high cultural worth. It is a fertile field which would well repay cultivation, but unfortunately the literature on the subject has only scratched the stony spots.

LEON V. SOLON

In our Plate Section of the September, 1924, issue we gave the location of St. Mark's School, Jos. G. Steinkamp & Bro., Architects, as Evanston, Illinois. It has been called to our attention that this school is situated in Evanston, Cincinnati, Ohio.

(*Text continued from page* 577)

for a revival. The movement of the cycle would indicate improvement in the near future.

In fact, it seems that there should be a considerable measure of increase in those classes and territories in which supply has not caught up with demand. Industrial construction has been running very low ever since 1920, and, with improved industrial conditions next year, should show a marked increase in volume. Public works and utilities have already increased considerably and will probably continue on the upgrade. Improved conditions in general business are likely to stimulate demand somewhat in the commercial building group, although present requirements have been largely taken care of.

It seems rather unlikely that residential construction can continue at such a rate as has prevailed through the past three years. There has been a vast amount of speculative building of apartments and dwellings, particularly in the larger centers. Some places are for the moment overbuilt; many have caught up with the demand. Yet there is probably a very considerable latent demand for private work, particularly in the smaller towns and in the middle western section of the country, that is likely to develop into an actual demand if general business enjoys a reasonable measure of prosperity.

In view of the lessened demand for building, it seems most unlikely that the 1925 construction total can reach that of this year. Yet the other considerations mentioned above do not seem to indicate a big drop. Consequently, in the estimate shown in Tables II and III, the tentative 1925 total has been set at four-and-a-half billion dollars, or something closer to the 1922 and 1923 records than to that of this year or the average post-war year. This 1925 total, as well as the 1925 analysis in Table III, is to be regarded as a tentative estimate in the light of the building record to November 1, 1924. Any one following these estimates must realize that they should be revised frequently in the light of new developments.

Following the remarkable record of last winter, a moderate rise during the next few months seems probable. Should this rise be fairly considerable and a mild reaction follow in the middle of next year, it would not be surprising. In general, the indications are for a moderate upward trend during the coming year.

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